SAMSUNG

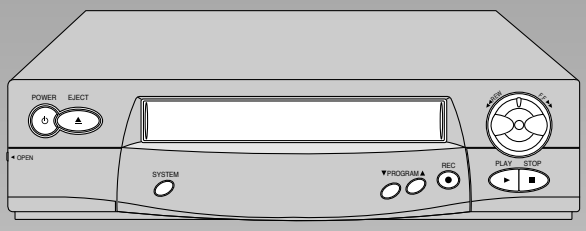
VIDEO CASSETTE RECORDER

SV-415X/413X/411X/410X/472X/471X
SV-215X/213X/211X/210X/272X/271X
SV-415F/410F/215F/210F
SV-415B/215B/213B
SV-415G/410G/215G/210G

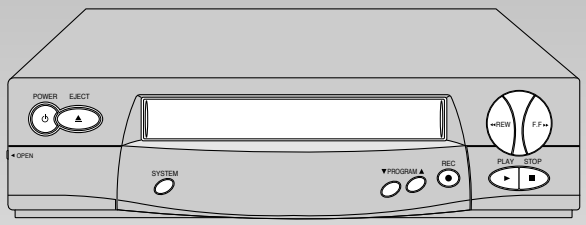
SERVICE Manual

For mechanical disassembly and adjustment, refer to the "Mechanical Manual" (DX7-A/AC, DX8-A/AC ⟶ AC68-20392A).

VIDEO CASSETTE RECORDER



SV-415X/415F/415B/415G
SV-215X/215G



SV-413X/411X/410X/472X/471X
SV-213X/211X/210X/272X/271X
SV-410F/215F/210F/215B/213B/410G/210G

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AC68-20399A

1. Precautions

1. Be sure that all of the built-in protective devices are replaced. Restore any missing protective shields.

2. When reinstalling the chassis and its assemblies, be sure to restore all pretective devices, including : control knobs and compartment covers.

3. Make sure that there are no cabinet openings through which people--particularly children --might insert fingers and contact dangerous voltages. Such openings include the spacing between the picture tube and the cabinet mask, excessively wide cabinet ventilation slots, and improperly fitted back covers.

   If the measured resistance is less than 1.0 megohm or greater than 5.2 megohms, an abnormality exists that must be corrected before the unit is returned to the customer.

4. Leakage Current Hot Check (See Fig. 1) :
   Warning : Do not use an isolation transformer during this test. Use a leakage current tester or a metering system that complies with American National Standards Institute (ANSI C101.1, *Leakage Current for Appliances*), and Underwriters Laboratories (*UL Publication UL1410, 59.7*).

5. With the unit completely reassembled, plug the AC line cord directly the power outlet. With the unit's AC switch first in the ON position and then OFF, measure the current between a known erath ground (metal water pipe, conduit, etc.) and all exposed metal parts, including : antennas, handle brackets, metal cabinets, screwheads and control shafts. The current measured should not exceed 0.5 milliamp. Reverse the power-plug prongs in the AC outlet and repeat the test.

6. X-ray Limits :
   The picture tube is designed to prohibit X-ray emissions. To ensure continued X-ray protection, replace the picture tube only with one that is the same type as the original.

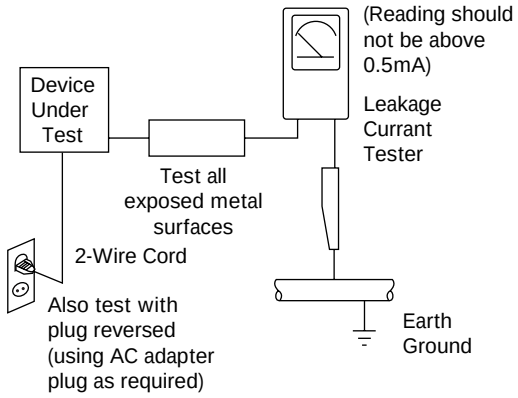

(Reading should not be above 0.5mA)
Device Under Test
Leakage Currant Tester
Test all exposed metal surfaces
2-Wire Cord
Also test with plug reversed (using AC adapter plug as required)
Earth Ground

Fig. 1-1 AC Leakage Test

7. Antenna Cold Check :
   With the unit's AC plug disconnected from the AC source, connect an electrical jumper across the two AC prongs. Connect one lead of the ohmmeter to an AC prong.
   Connect the other lead to the coaxial connector.

8. High Voltage Limit :
   High voltage must be measured each time servicing is done on the B+, horizontal deflection or high voltage circuits.

   Heed the high voltage limits. These include the *X-ray protection Specifications Label*, and the *Product Safety and X-ray Warning Note* on the service data schematic.

9. Some semiconductor ("solid state") devices are easily damaged by static electricity.
   Such components are called Electrostatically Sensitive Devices (ESDs); examples include integrated circuits and some field-effect transistors. The following techniques will reduce the occurrence of component damage caused by static electricity.

10. Immediately before handling sny semiconductor components or assemblies, drain the electrostatic charge from your body by touching a known earth ground. Alternatively, wear a discharging Wrist-strap device. (Be sure to remove it prior to applying power--this is an electric shock precaution.)

11. High voltage is maintained within specified limits by close-tolerance, safety-related components and adjustments. If the high voltage exceeds the specified limits, check each of the special components.

12. Design Alteration Warning :
    Never alter or add to the mechanical or electrical design of this unit. Example : Do not add auxiliary audio or video connectors. Such alterations might create a safety hazard. Also, any design changes or additions will void the manufacturer's warranty.

13. Hot Chassis Warning :
    Some TV receiver chassis are electrically connected directly to one conductor of the AC power cord. If an isolation transformer is not used, these units may be safely serviced only if the AC power plug is inserted so that the chassis is connected to the ground side of the AC source.

    To confirm that the AC power plug is inserted correctly, do the following : Using an AC voltmeter, measure the voltage between the chassis and a known earth ground. If the reading is greater than 1.0V, remove the AC power plug, reverse its polarity and reinsert. Re-measure the voltage between the chassis and ground.

14. Some TV chassis are designed to operate with 85 volts AC between chassis and ground, *regardless of the AC plug polarity*. These units can be safely serviced *only* if an isolation transformer inserted between the receiver and the power source.

15. Never defeat any of the B+ voltage interlocks. Do not apply AC power to the unit (or any of its assemblies) unless all solid-state heat sinks are correctly installed.

16. Always connect a test instrument's ground lead to the instrument chassis ground *before* connecting the positive lead; always remove the instrument's ground lead last.

17. Observe the original lead dress, especially near the following areas : Antenna wiring, sharp edges, and especially the AC and high voltage power supplies. Always inspect for pinched, out-of-place, or frayed wiring. Do not change the spacing between components and the printed circuit board. Check the AC power cord for damage. Make sure that leads and components do not touch thermally hot parts.

18. Picture Tube Implosion Warning :
    The picture tube in this receiver employs "integral implosion" protection. To ensure continued implosion protection, make sure that the replacement picture tube is the same as the original.

19. Do not remove, install or handle the picture tube without first putting on shatterproof goggles equipped with side shields. Never handle the picture tube by its neck. Some "in-line" picture tubes are equipped with a permanently attached deflection yoke; do not try to remove such "permanently attached" yokes from the picture tube.

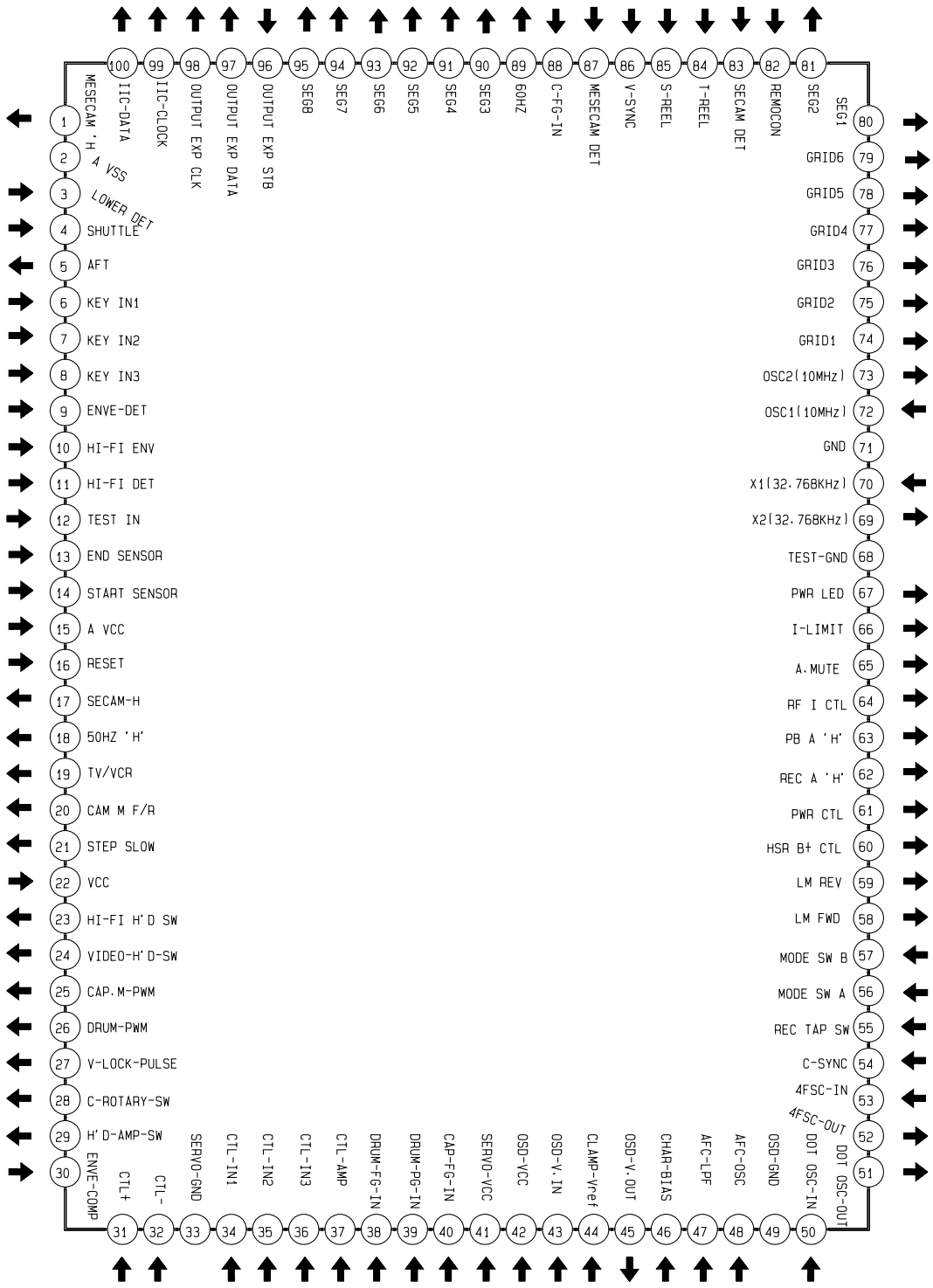
20. Product Safety Notice :
    Some electrical and mechanical parts have special safety-related characteristics which might not be obvious from visual inspection. These safety features and the protection they give might be lost if the replacement component differs from the original--even if the replacement is rated for higher voltage, wattage, etc.

    Components that are critical for safety are indicated in the circuit diagram by shading, (or).
    Use replacement components that have the same ratings, especially for flame resistance and dielectric strength specifications. A replacement part that does not have the same safety characteristics as the original might create shock, fire or other hazards.

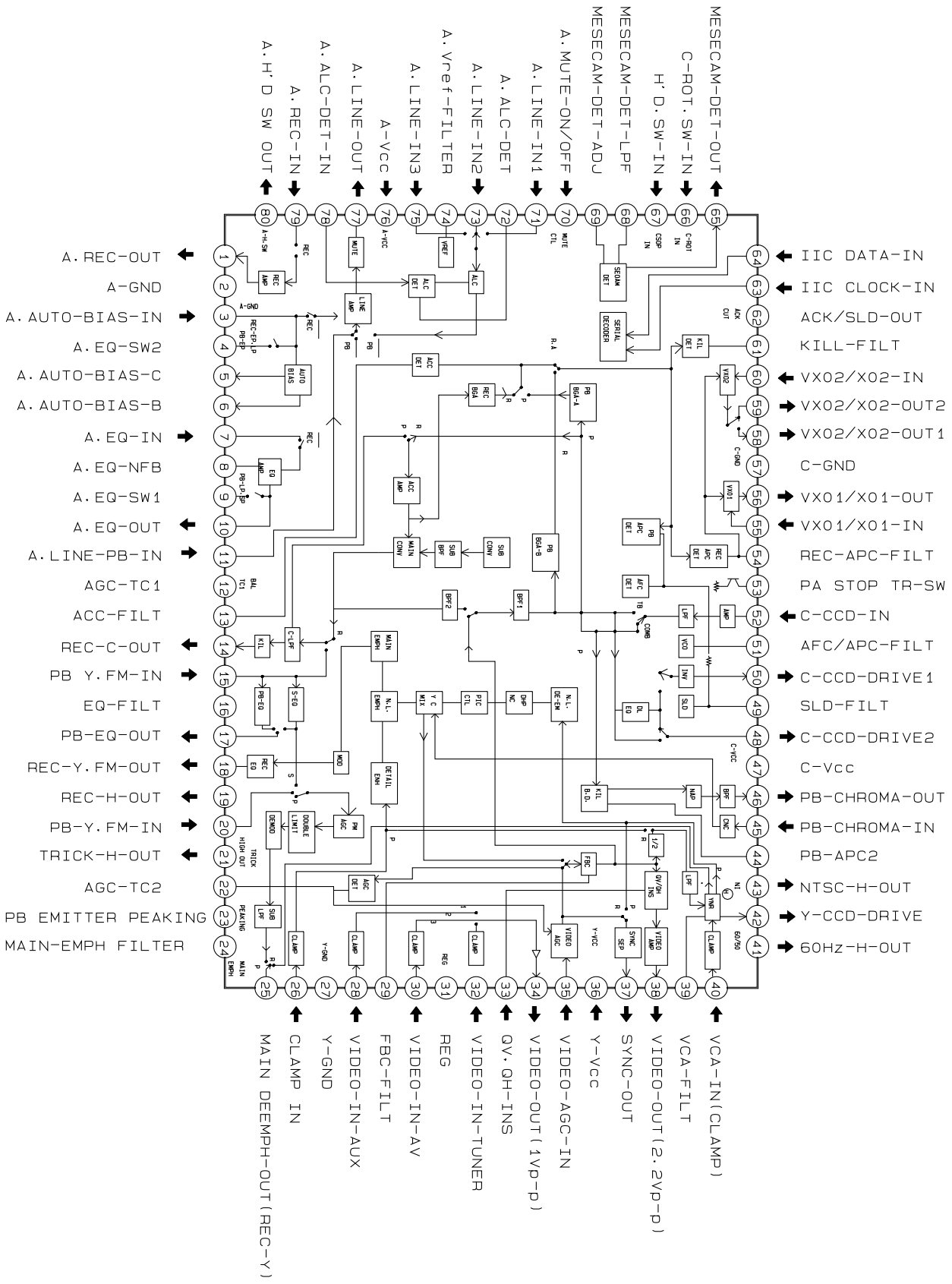
2. Reference Information

2-1 IC BLOCK

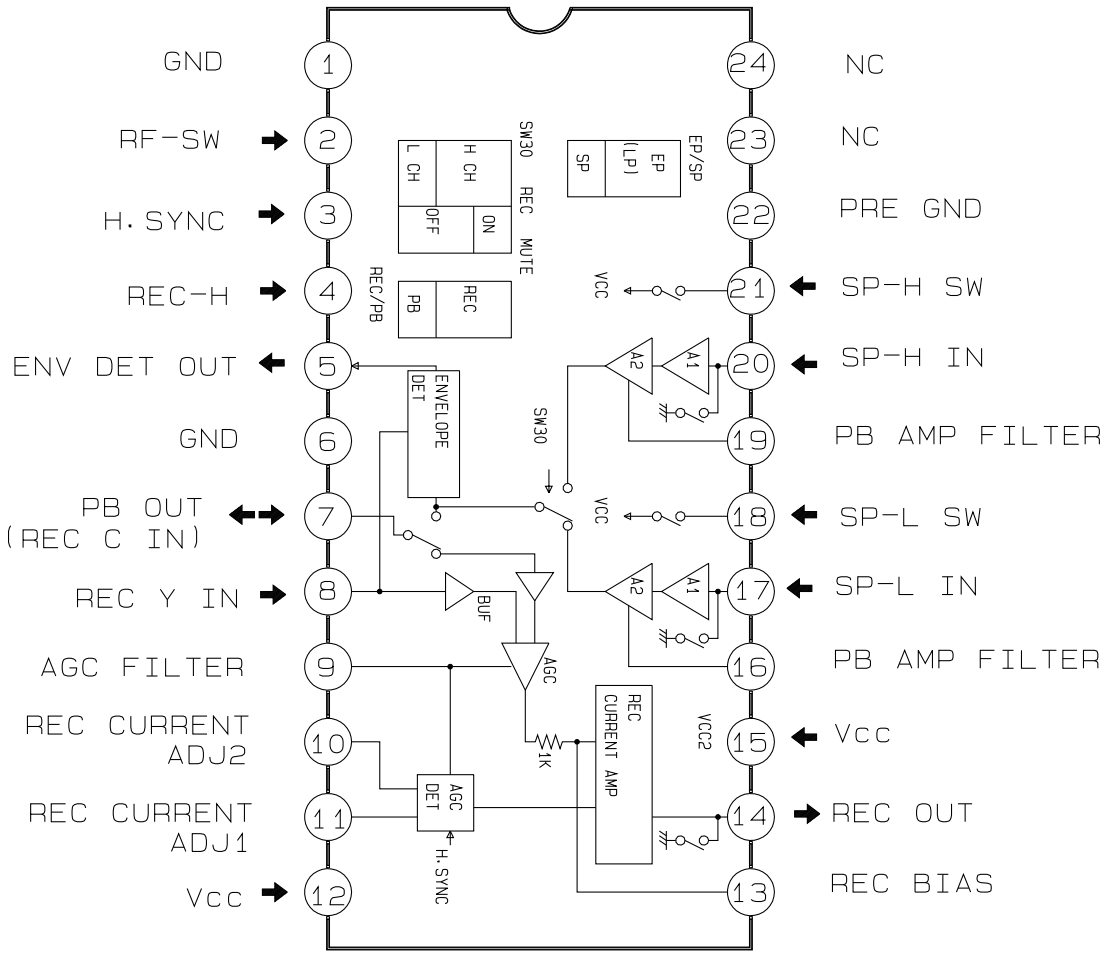
2-1-1 IC601 (HD6473977)



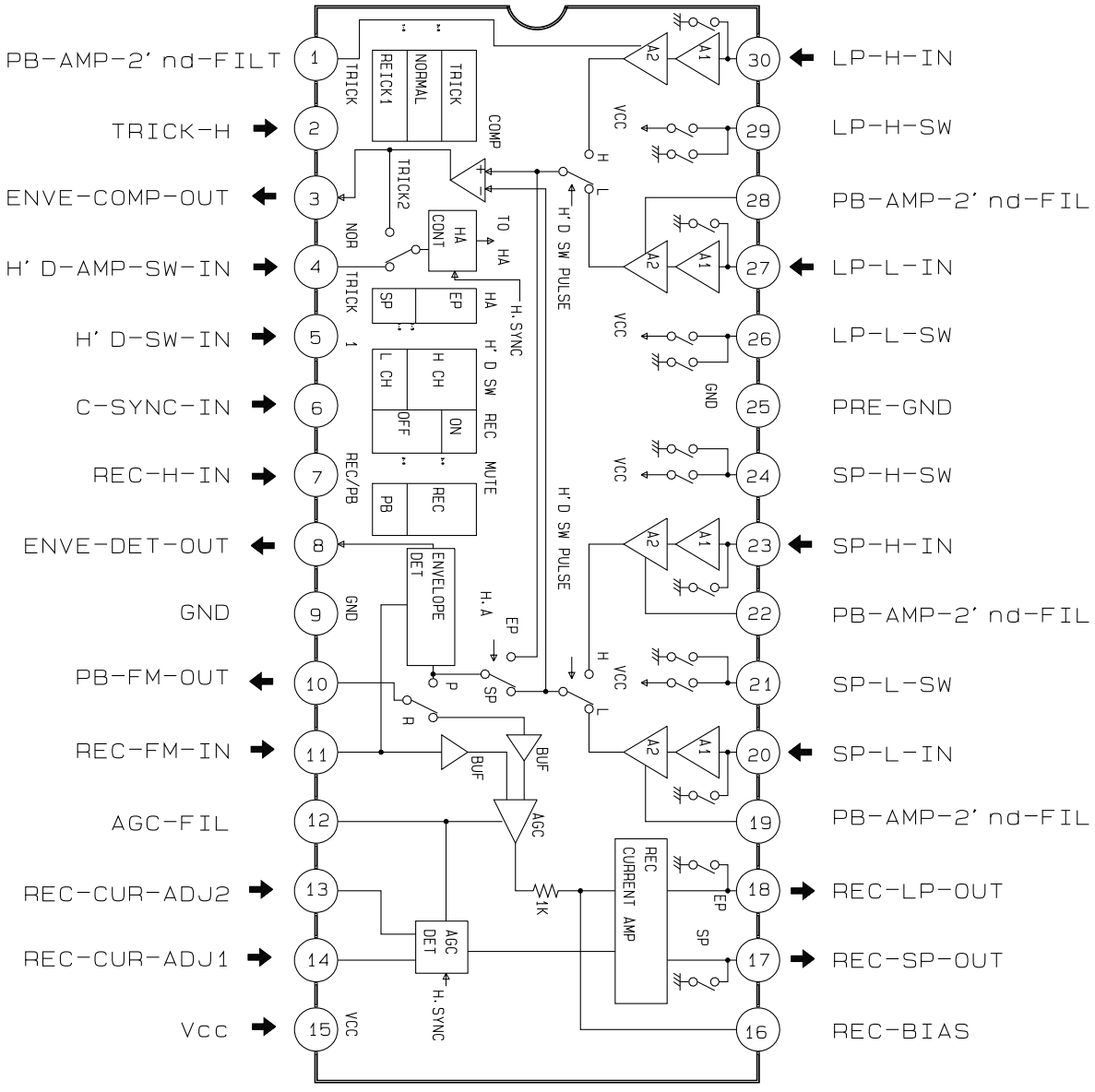
2-1-2 IC301 (SS11511M)



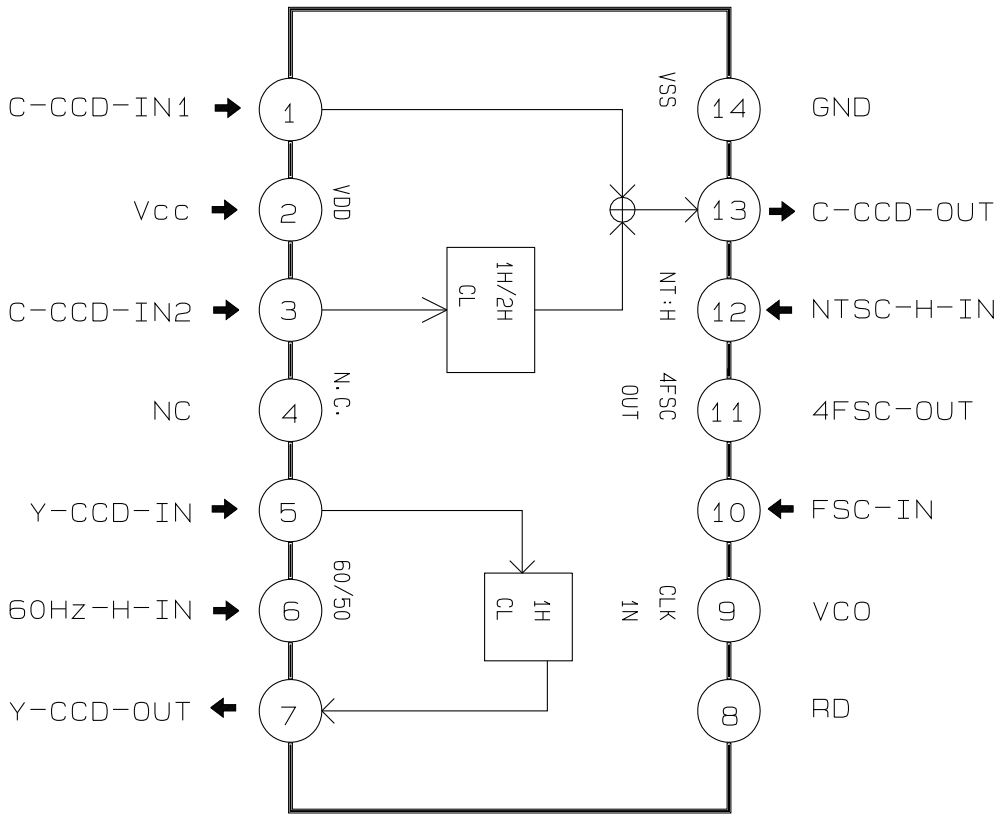
2-1-3 IC302 (LA7411) - 2 Head



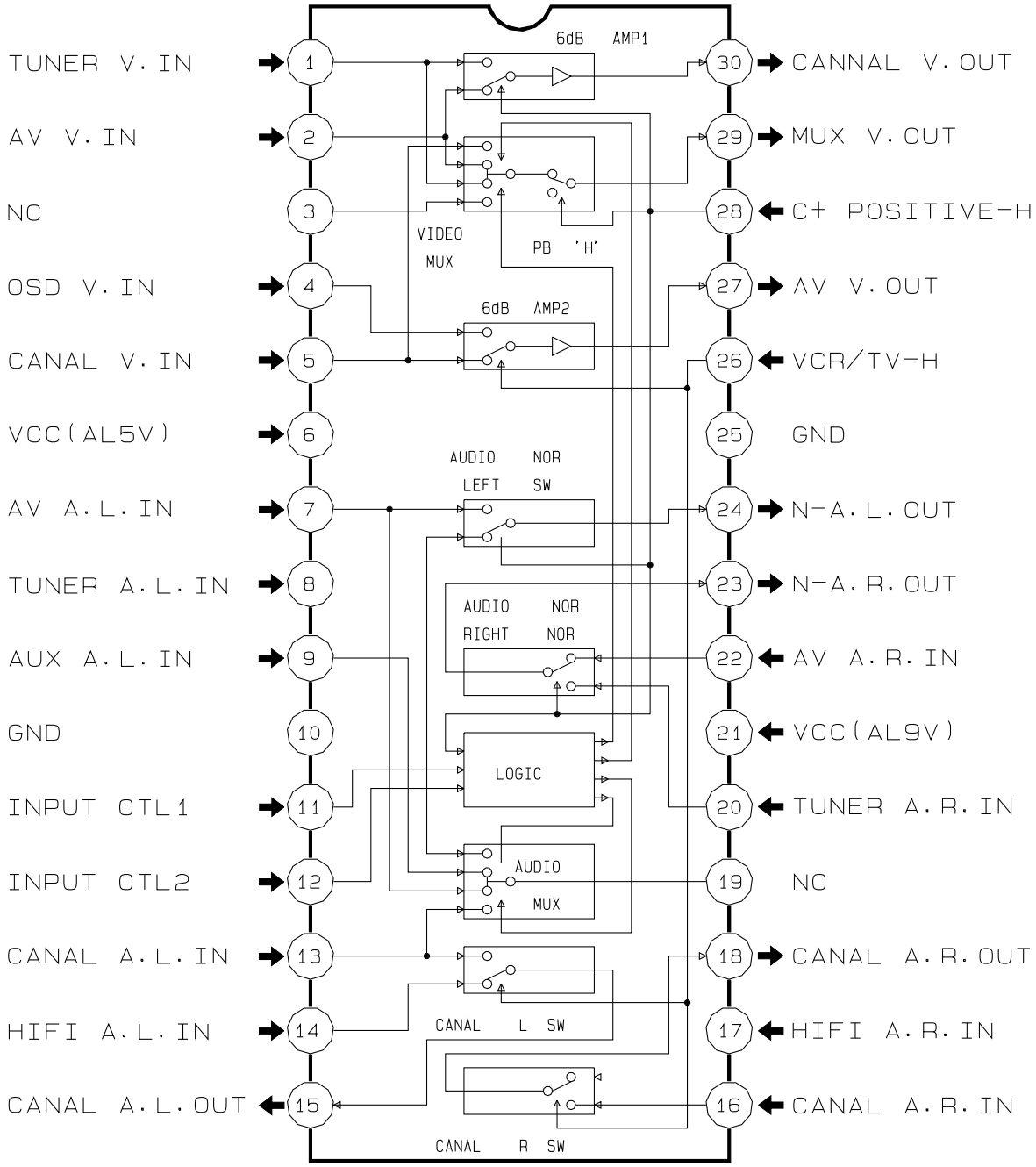
2-1-4 IC302 (LA7416) - 4 Head



2-1-5 IC303 (SS23377M)



2-1-6 IC801 (KA8119)



3. Product Specifications and Comparison Chart

3-1 Product Specifications

Design and specifications are subject to change without notice.

Operation	Description
Format	VHS PAL standard
Heads	Video : 4 or 2 rotary heads Audio/Control : 1 stationary head Erase : 1 full track erase head
Receiving channel	VHF-I, VHF-III, UHF, Hyperband
Television system	Standard B/G (for German & West Europe) Standard B/G, L'L (for France) Standard B/G, D/K (for East Europe & Middle East Asia) Standard I (for U.K)
Recording system	
Luminance	FM azimuth recording
Colour	PAL (NTSC/MESECAM) : Down converted subcarrier phase shifted direct recording SECAM : 1/4 counted down subcarrier direct recording NTSC PB on PAL TV
Tape speed	SP : 23.39 mm/sec, LP : 11.69 mm/sec
Recording/playback time	SP : 3 hours (E-180 Tape), LP : 6 hours (E-180 Tape)
F.F/REW time	About 100 ~ 190 sec in REW/F.F with E-180 tape
VIDEO	
Input Output Signal-to-noise ratio Horizontal resolution	0.5 to 2.0 Vp-p : 75 ohm unbalanced 1.0 ± 0.2 Vp-p : 75 ohm unbalanced Better than 43 dB (SP) More than 240 lines (SP)
Audio	
Input Output Wow and flutter (WTD) Signal-to-noise ratio Frequency response	-8 dBm, 47 Kohm unbalanced -8 ± 3 dBm, 1 Kohm unbalanced 0.4% max (SP) 42 dB min (IHF A filter) 100Hz ~ 8KHz
Power requirement	230V (AC 50/60 Hz)
Power consumption	Approx. 18 watts
Operation temperature	41°F ~ 104°F (5°C ~ 40°C)
Operation humidity	10%-75%
Weight	4.4 Kg (net)
Dimensions (W x H x D)	360 x 92 x 314 mm

3-2 Comparison Chart

COUNTRY	MODEL	HEADS	TAPE SPEED	S/VIEW	V/PLUS	VPS	PDC	ATS	AUTO CLOCK	CANAL+	P/MIERE	VCR/TV	JUST REC	DIAMOND HEAD (DLC)
FINLAND	SV-415X	4	SP/LP	O	X	X	O	O	O	O	X	O	O	X
SWEDEN	SV-410X	4	SP/LP	X	X	X	X	X	X	X	X	X	O	X
NORWAY	SV-215X	2	SP	O	X	X	O	O	O	O	X	O	X	X
	SV-210X	2	SP	X	X	X	X	X	X	X	X	X	X	X
FRANCE	SV-415F	4	SP/LP	O	X	X	O	O	O	O	X	O	O	X
	SV-410F	4	SP/LP	X	X	X	X	X	X	O	X	O	O	X
	SV-215F	2	SP	O	X	X	O	O	O	O	X	O	X	X
	SV-210F	2	SP	X	X	X	X	X	X	O	X	O	X	X
NETHERLANDS	SV-415X	4	SP/LP	O	X	X	O	O	O	O	X	O	O	X
	SV-410X	4	SP/LP	X	X	X	X	X	X	O	X	X	O	X
	SV-215X	2	SP	O	X	X	O	O	O	O	X	O	X	X
	SV-210X	2	SP	X	X	X	X	X	X	O	X	X	X	X
SWITZERLAND	SV-413X	4	SP/LP	O	X	O	X	O	O	X	O	O	O	X
	SV-213X	2	SP	O	X	O	X	O	O	X	X	X	X	X
	SV-210F	2	SP	X	X	X	X	X	X	O	X	O	X	X
AUSTRIA	SV-413X	4	SP/LP	O	X	O	X	O	O	X	O	O	O	X
	SV-213X	2	SP	O	X	O	X	O	O	X	X	X	X	X
GERMANY	SV-413X	4	SP/LP	O	X	O	X	O	O	X	O	O	O	X
	SV-213X	2	SP	O	X	O	X	O	O	X	X	X	X	X
GREECE	SV-410X	4	SP/LP	X	X	X	X	X	X	X	X	X	O	X
	SV-215X	2	SP	O	X	X	O	O	O	O	X	O	X	X
	SV-210X	2	SP	X	X	X	X	X	X	X	X	X	X	X
ITALY	SV-413X	4	SP/LP	O	X	X	X	X	X	O	X	O	O	X
	SV-411X	4	SP/LP	X	X	X	X	X	X	O	X	O	O	X
	SV-215X	2	SP	O	X	X	O	O	O	O	X	O	X	X
	SV-211X	2	SP	X	X	X	X	X	X	O	X	O	X	X
	SV-472X	4	SP/LP	X	X	X	X	X	X	O	X	O	O	X
	SV-471X	4	SP/LP	X	X	X	X	X	X	O	X	O	O	X
	SV-272X	2	SP	X	X	X	X	X	X	O	X	O	X	X
	SV-271X	2	SP	X	X	X	X	X	X	O	X	O	X	X
PORTUGAL	SV-411X	4	SP/LP	X	X	X	X	X	X	O	X	O	O	X
	SV-215X	2	SP	O	X	X	O	O	O	O	X	O	X	X
	SV-211X	2	SP	X	X	X	X	X	X	O	X	O	X	X

COUNTRY	MODEL	HEADS	TAPE SPEED	S/VIEW	V/PLUS	VPS	PDC	ATS	AUTO CLOCK	CANAL+	P/MIERE	VCR/TV	JUST REC	DIAMOND HEAD (DLC)
DENMARK	SV-415X	4	SP/LP	O	X	X	O	O	O	O	X	O	O	X
	SV-410X	4	SP/LP	X	X	X	X	X	X	X	X	X	O	X
	SV-215X	2	SP	O	X	X	O	O	O	O	X	O	X	X
	SV-210X	2	SP	X	X	X	X	X	X	X	X	X	X	X
SPAIN	SV-411X	4	SP/LP	X	X	X	X	X	X	O	X	O	O	X
	SV-215X	2	SP	O	X	X	O	O	O	O	X	O	X	X
	SV-211X	2	SP	X	X	X	X	X	X	O	X	O	X	X
U.K	SV-415B	4	SP/LP	X	O	X	O	O	O	X	X	X	O	X
	SV-215B	2	SP/LP	X	O	X	O	O	O	X	X	X	O	X
	SV-213B	2	SP/LP	X	O	X	X	X	X	X	X	X	O	X
BULGARIA	SV-415G	4	SP/LP	O	X	O	X	O	X	X	X	X	O	O
	SV-210G	2	SP	X	X	X	X	X	X	X	X	X	X	O
CZECH.	SV-415G	4	SP/LP	O	X	O	X	O	X	X	X	X	O	O
	SV-210G	2	SP	X	X	X	X	X	X	X	X	X	X	O
HUNGARY	SV-415G	4	SP/LP	O	X	O	X	O	X	X	X	X	O	O
	SV-410G	4	SP/LP	X	X	X	X	X	X	X	X	X	O	O
	SV-215G	2	SP	O	X	X	X	X	X	X	X	X	X	O
	SV-210G	2	SP	X	X	X	X	X	X	X	X	X	X	O
POLAND	SV-415G	4	SP/LP	O	X	O	X	O	X	X	X	X	O	O
	SV-410G	4	SP/LP	X	X	X	X	X	X	X	X	X	O	O
	SV-215G	2	SP	O	X	X	X	X	X	X	X	X	X	O
	SV-210G	2	SP	X	X	X	X	X	X	X	X	X	X	O
ROMANIA	SV-415G	4	SP/LP	O	X	O	X	O	X	X	X	X	O	O
	SV-215G	2	SP	X	X	X	X	X	X	X	X	X	X	O
CROATIA	SV-413X	4	SP/LP	O	X	O	X	O	O	X	O	O	O	X
	SV-213X	2	SP	O	X	O	X	O	O	X	X	X	X	X
	SV-210X	2	SP	X	X	X	X	X	X	X	X	X	X	X
SLOVENIA	SV-413X	4	SP/LP	O	X	O	X	O	O	X	O	O	O	X
	SV-213X	2	SP	O	X	O	X	O	O	X	X	X	X	X
	SV-210X	2	SP	X	X	X	X	X	X	X	X	X	X	X

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4. Disassembly and Reassembly

4-1 Cabinet Assembly

Note : Disassemble in the order shown.
Reassemble in reverse order.

4-1-1 Cabinet Top removal

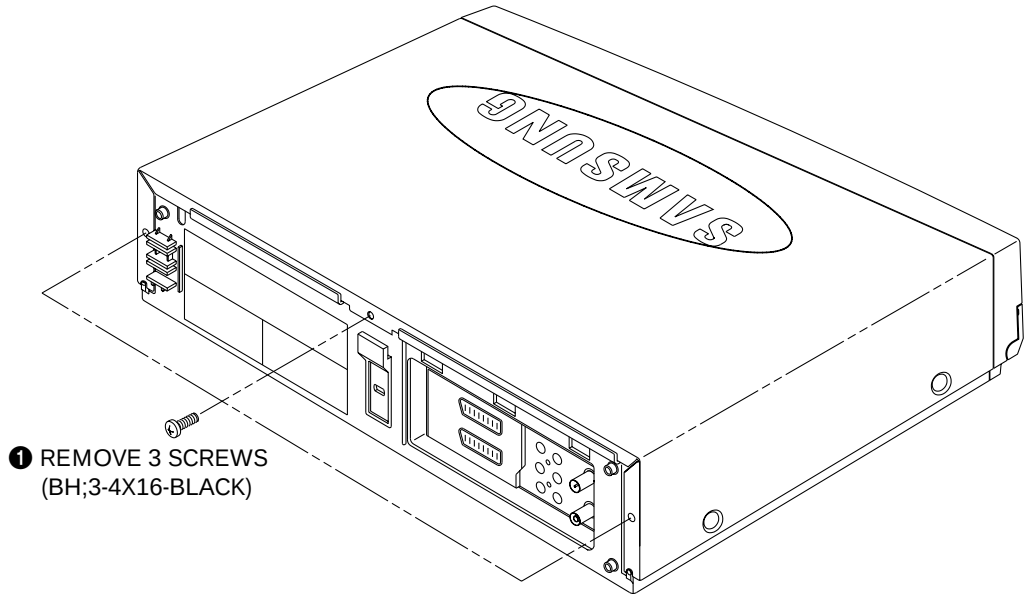


Fig. 4-1 Cabinet Top removal

4-1-2 Bottom cover removal

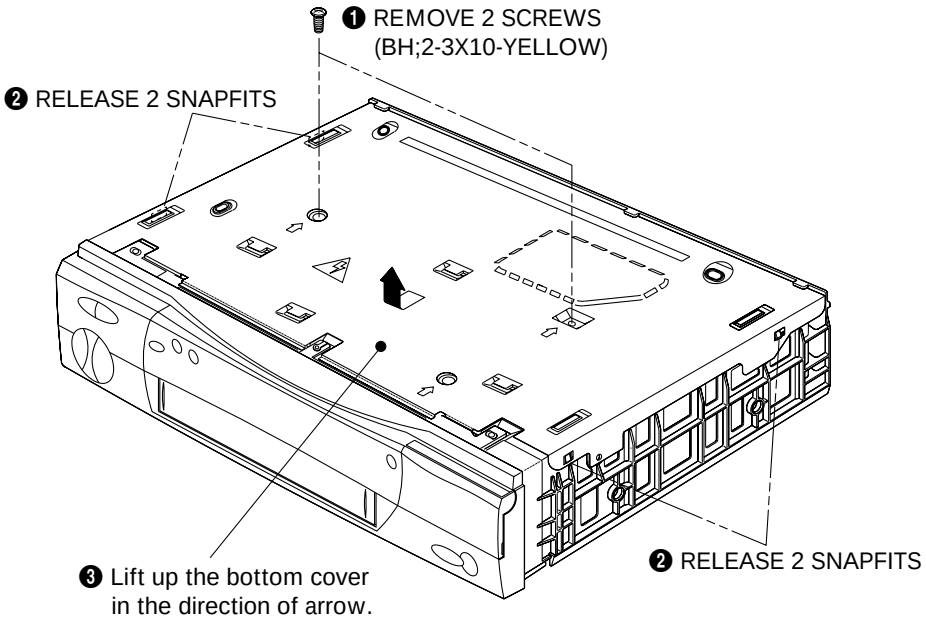
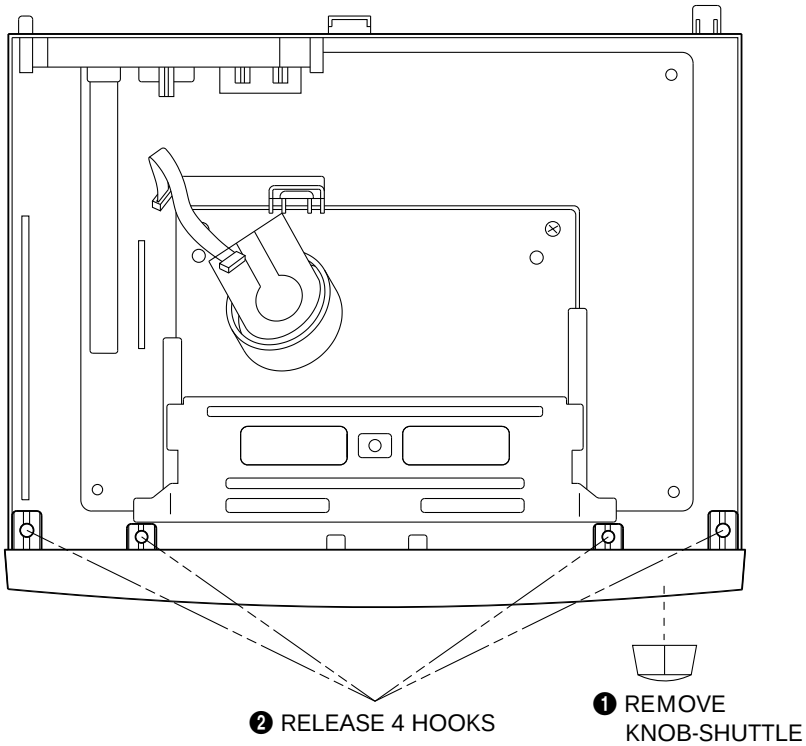
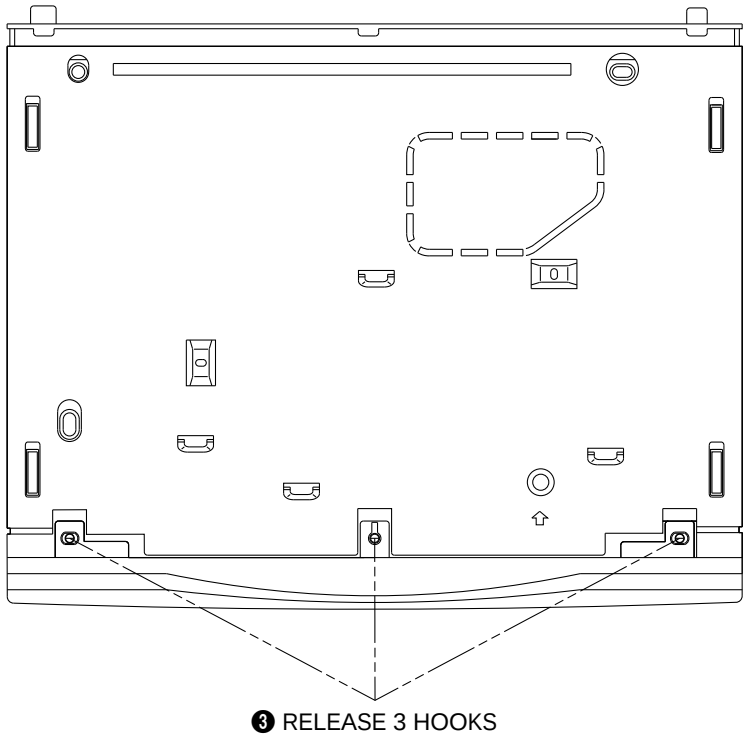

❶ REMOVE 2 SCREWS
(BH;2-3X10-YELLOW)
❷ RELEASE 2 SNAPFITS
❸ Lift up the bottom cover
in the direction of arrow.
❷ RELEASE 2 SNAPFITS

Fig. 4-2 Bottom Cover removal

4-1-3 Ass'y Front Panel removal



(Top view)



(Bottom view)

Fig. 4-3 Ass'y Front Panel removal

4-1-4 Ass'y Function-Timer removal

Note : Take extreme care not to damage the PCB when removing it.

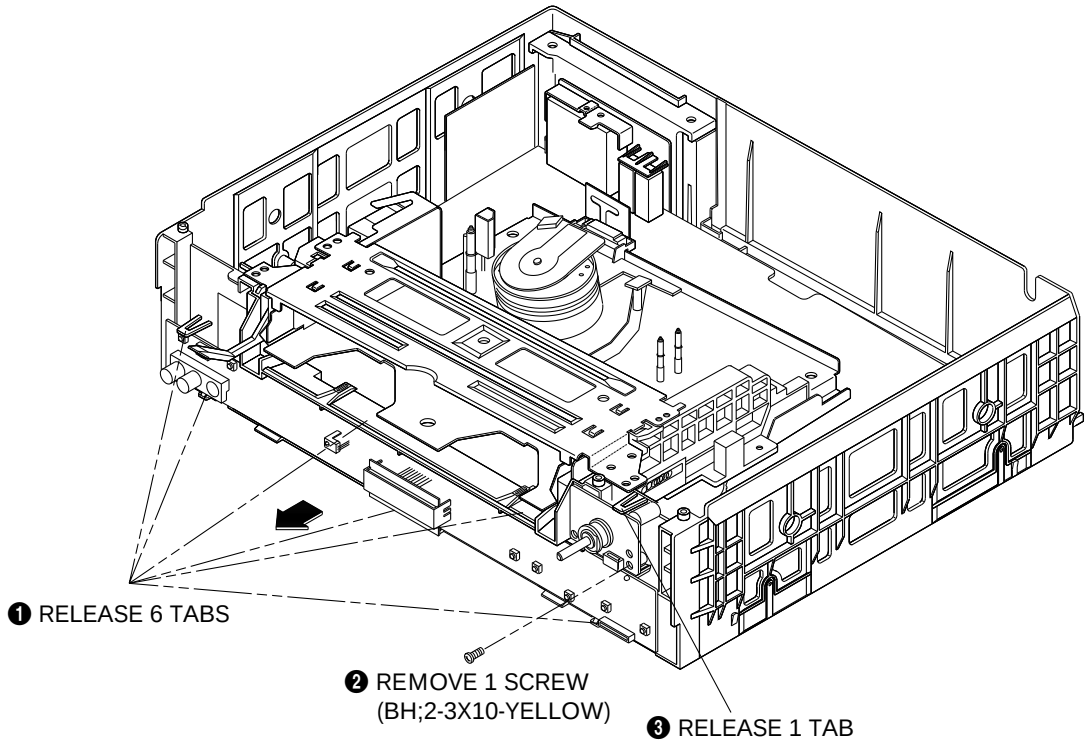


Fig. 4-4 Ass'y Function-Timer removal

4-1-5 Chassis removal

Note : 1. When removing chassis, take extreme care not to damage the main PCB front.
2. When reinstalling the deck on the main PCB, take extreme care not to damage the sensor.

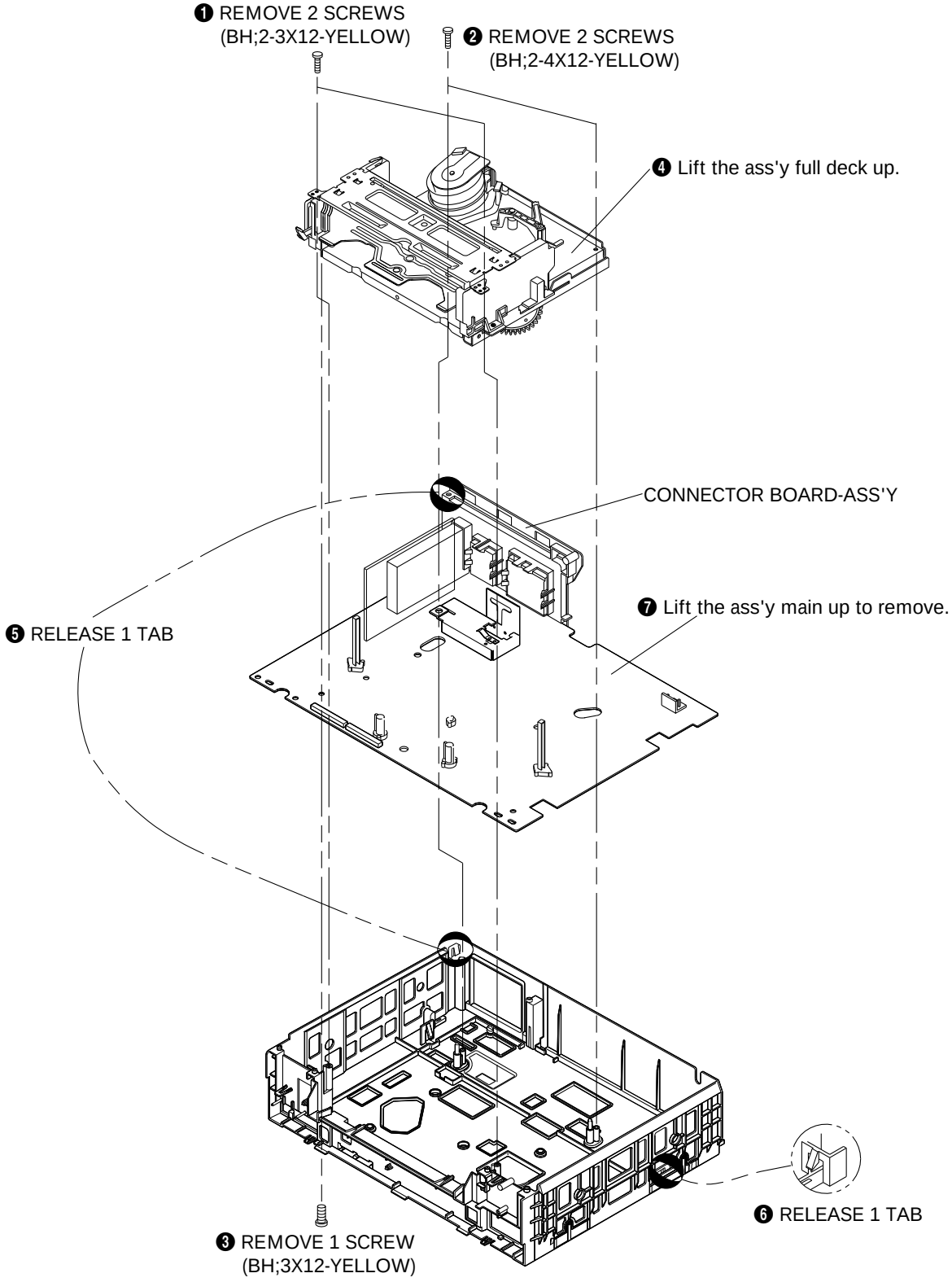


Fig. 4-5 Chassis Removal

4-2 Circuit Board Locations

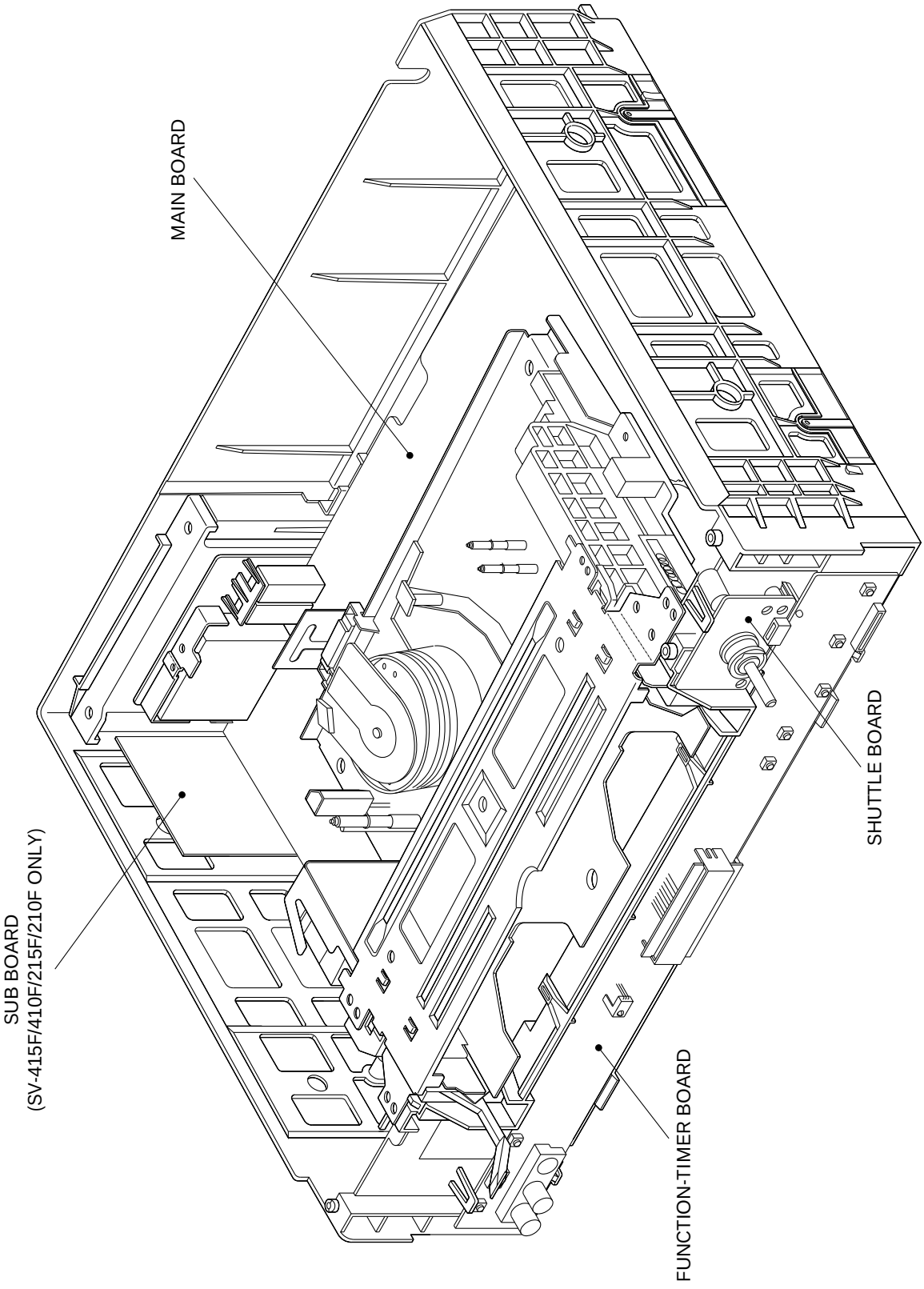


Fig. 4-6 Circuit Board Locations

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5. Alignment and Adjustment

Note : After replacing the ass'y full deck, the ass'y main, the cylinder ass'y and the micom(IC601), the remote control ass'y can be used to adjust the "X-point (tracking center) adjustment" and "Head S/W point" adjustment.

5-1 Reference

5-1-1 The type of remote control ass'y

1. Remote control ass'y (AC93-10039Y/69099-633-252) is specified as a service jig in the service manual of X-5/X-6(DX5-R/DX5-RC/DX6-R/DX6-RC) chassis. (See Fig. 5-1)
2. Normal remote control ass'y for X-7/X-8 (DX7-R/DX7-RC/DX8-R/DX8-RC) chassis. (See Fig. 5-2)

5-1-2 How to identify between normal remote control ass'y and multi remote control ass'y for X-7/X-8 chassis (See Fig. 5-2)

1. The color of some buttons related to TV function are gold.
2. Audio button is added instead of the test button hidden behind of inlay.
3. The positions of some buttons are different.

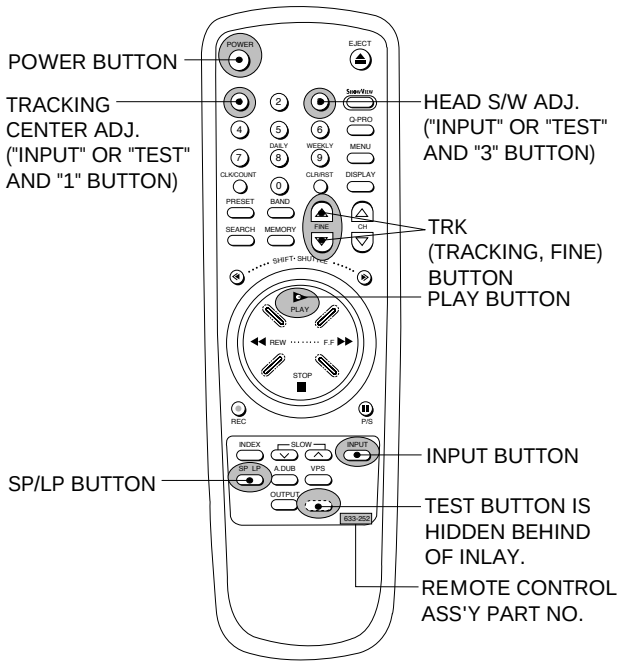

POWER BUTTON
TRACKING CENTER ADJ. ("INPUT" OR "TEST" AND "1" BUTTON)
SP/LP BUTTON
HEAD S/W ADJ. ("INPUT" OR "TEST" AND "3" BUTTON)
TRK (TRACKING, FINE) BUTTON
PLAY BUTTON
INPUT BUTTON
TEST BUTTON IS HIDDEN BEHIND OF INLAY.
REMOTE CONTROL ASS'Y PART NO.

Fig. 5-1 Remote Control Ass'y Jig for X-5/X-6 Chassis (AC93-10039Y/69099-633-252)

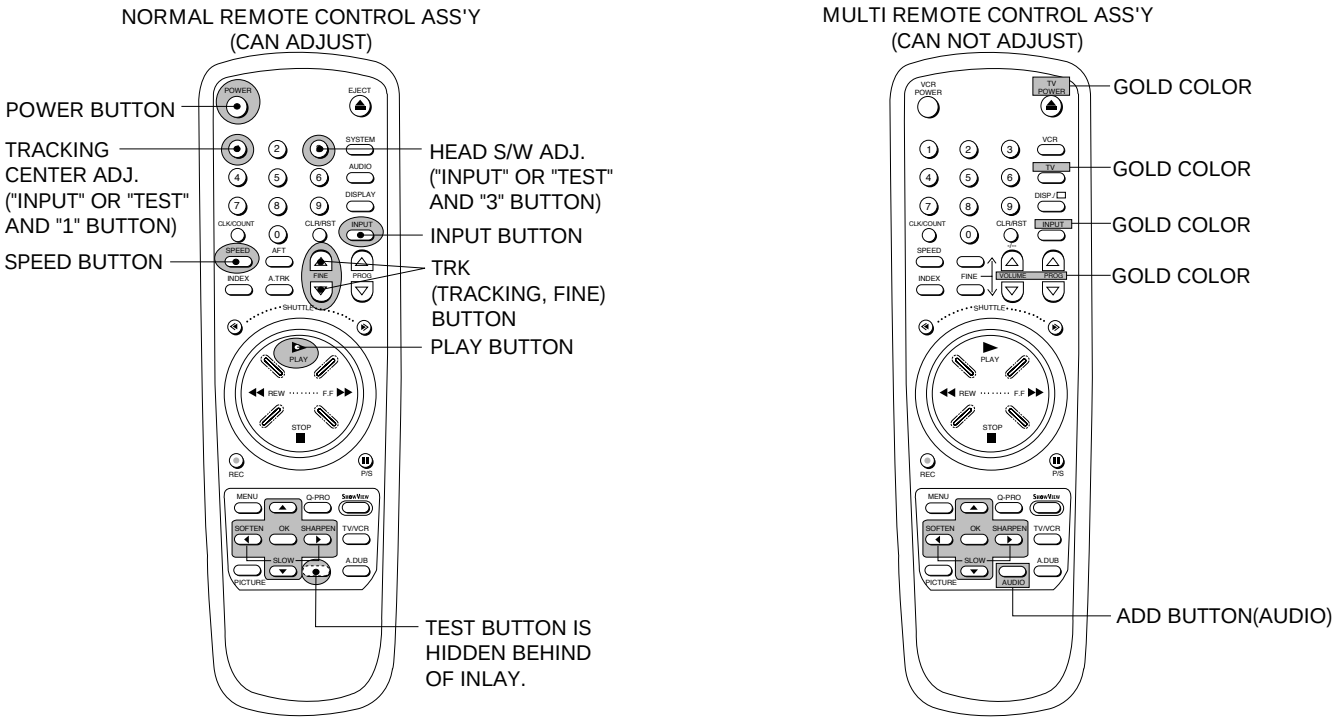

NORMAL REMOTE CONTROL ASS'Y (CAN ADJUST)
POWER BUTTON
TRACKING CENTER ADJ. ("INPUT" OR "TEST" AND "1" BUTTON)
SPEED BUTTON
HEAD S/W ADJ. ("INPUT" OR "TEST" AND "3" BUTTON)
INPUT BUTTON
TRK (TRACKING, FINE) BUTTON
PLAY BUTTON
TEST BUTTON IS HIDDEN BEHIND OF INLAY.
MULTI REMOTE CONTROL ASS'Y (CAN NOT ADJUST)
GOLD COLOR
GOLD COLOR
GOLD COLOR
GOLD COLOR
ADD BUTTON(AUDIO)

Fig. 5-2 Remote Control Ass'y for X-7/X-8 Chassis

5-2 Mechanical Adjustment

Note : Refer to the Mechanical Manual "DX7-A/DX7-AC/DX8-A/DX8-AC (AC68-20392A)" for the adjustment and confirmation of ass'y full deck.

5-2-1 The number and position of test point

Test point : TP02 (CTL Pulse)
TP03 (H'D S/W -Trigger)
TP04 (V. Envelope)
TP05 (Audio out)

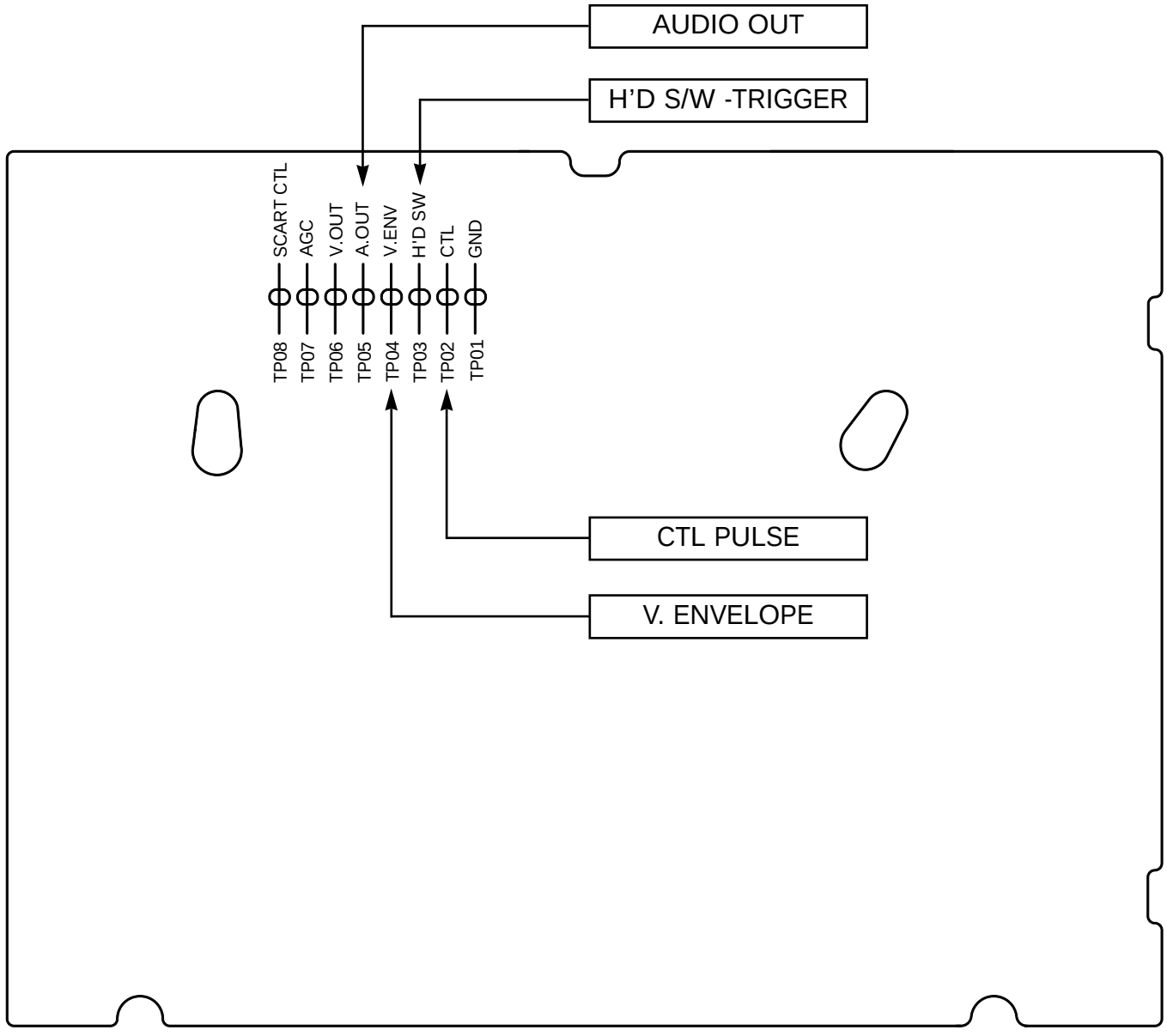


Fig. 5-3 The position of test point (Main PCB-Component side)

5-2-2 X-Point(Tracking center) adjustment (See the 2-2-1 (d) AC HEAD POSITION(X-POINT) ADJUSTMENT on page 2-3 of the mechanical manual)

5-2-2 (a) IF THE REMOTE CONTROL ASS'Y IS NOT AVAILABLE

1. Playback the colorbar alignment tape.
2. Connect CH-1 scope probe to "TP02" and CH-2 scope probe to "TP03". And then, trigger head switching pulse.
3. Set tracking preset to 11msec (2head : 2.7msec, 4, 6head : 11msec) using the "**FINE (ADJUST)** button (^) / (v) of the other remote control ass'y except the remote control ass'y jig for X-5/X-6 chassis and the normal remote control ass'y for X-7/X-8 chassis.
4. Insert the adjusting driver (+) into X-position adjusting gear. Adjust the driver in either direction for maximum envelope waveform.

Note : Since the adjusting gear unit may be damaged, do not adjust by force when adjusting the X-point using the adjusting driver (+). After turn the X-point adjusting screw (D) counterclockwise a little, perform the adjustment. After adjustment is completed, tighten the screw.

<Setting of scope>
- Volt/div. : CH-1 = 0.1V, CH-2 = 0.2V
- Time/div. : 5msec

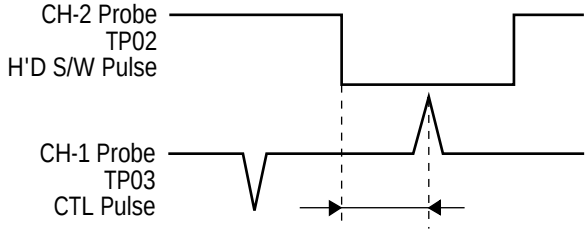


Fig. 5-4 Tracking preset adjustment

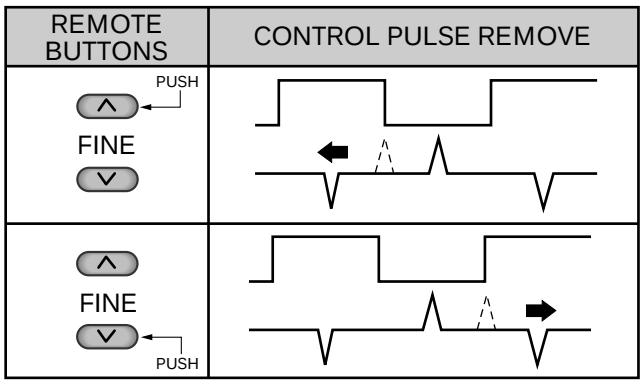


Fig. 5-5 Tracking preset adjustment

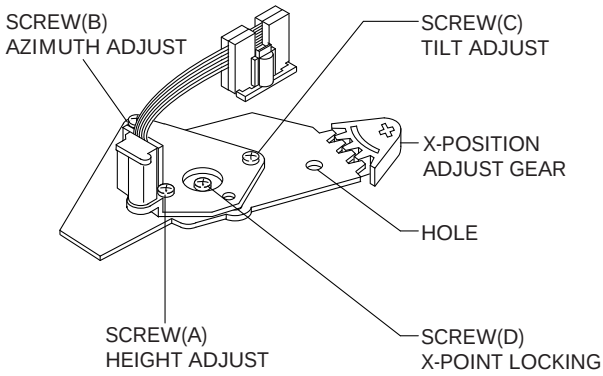


Fig. 5-6 Location of A/C Head adjustment screw

5-2-2 (b) IF THE REMOTE CONTROL ASS'Y (AC93-10039Y/69099-633-252) IS AVAILABLE

Note : How to use the "**TEST**" button.
1. Disattach the inlay of remote control ass'y. (See Fig. 5-1 and Fig. 5-2)
2. Press the "TEST" button with the pincers and the precise driver as shown in Fig. 5-1 and 5-2)

1. When using the "**INPUT**" button of remote control ass'y;

1) Simultaneously press the "**INPUT**" button and "**1**" button in PB mode.
   This will adjust the tracking center automatically.
2) Set the tracking preset using the "**FINE** (**ADJUST)** button of remote control.
3) After adjustment is completed, press the "**POWER**" button to release.

2. When using the "**TEST**" button of remote control ass'y ;

1) Simultaneously press the "**TEST**" button and "**5**" button in PB mode.
   This will adjust the tracking center automatically.
2) Set the tracking preset using the "**FINE** (**ADJUST)** button of remote control.
3) After adjustment is completed, press the "**POWER**" button to release.

5-2-2 (b) IF THE NORMAL REMOTE CONTROL ASS'Y OF X-7/X-8(DX7-R/DX7-RC/ DX8-R/DX8-RC) CHASSIS IS AVAILABLE

Note 1 : Two kinds of remote control ass'y are used for X-7/X-8(DX7-R/DX7-RC/DX8-R/ DX8-RC) chassis.

1. One is a normal remote control ass'y, the other is a multi remote control ass'y
2. All adjustments are adjusted by normal remote control ass'y only.
3. For the identification of normal remote control ass'y and multi remote control ass'y, See page 5-1.

Note 2 : How to use the "**TEST**" button.

1. Disattach the inlay of remote control ass'y. (See Fig. 5-1 and Fig. 5-2)
2. Press the "TEST" button with the pincers and the precise driver as shown in Fig. 5-1 and 5-2)

1. When using the "**INPUT**" button of remote control ass'y;

1) Simultaneously press the "**INPUT**" button and "**1**" button in PB mode.
   This will adjust the tracking center automatically.
2) Set the tracking preset using the "**FINE** (**ADJUST)** button of remote control.
3) After adjustment is completed, press the "**POWER**" button to release.

2. When using the "**TEST**" button of remote control ass'y ;

1) Simultaneously press the "**TEST**" button and "**5**" button in PB mode.
   This will adjust the tracking center automatically.
2) Set the tracking preset using the "**FINE** (**ADJUST)** button of remote control.
3) After adjustment is completed, press the "**POWER**" button to release.

5-3 Electrical Adjustment

5-3-1 Head S/W Adjustment

Note : Only remote control ass'y can adjust.

5-3-1 (a) IF REMOTE CONTROL ASS'Y (AC93-10039Y/69099-633-252) IS AVAILABLE

1. When using the "**INPUT**" button of remote control ass'y ;

1) Insert an SP tape into the housing ass'y.
2) Press the "**PLAY**" button.
3) Press the "**INPUT**" button and "**3**" button simultaneously.
4) This will adjust the head S/W point adjustment automatically.
5) After the adjustment is completed, press "**POWER**" button to release.

2. When using the "**TEST**" button of remote control ass'y ;

1) Insert an SP tape into the housing ass'y.
2) Press the "**PLAY**" button.
3) Press the "**TEST**" button and "**SP/LP**" button simultaneously.
4) This will adjust the head S/W point adjustment automatically.
5) After adjustment is completed, press the "**POWER**" button to release.

5-3-1 (b) IF NORMAL REMOTE CONTROL ASS'Y FOR X-7/X-8(DX7-R/DX7-RC/ DX8-R/DX8-RC) CHASSIS IS AVAILABLE

1. When using the "**INPUT**" button of remote control ass'y ;

1) Insert an SP tape into the housing ass'y.
2) Press the "**PLAY**" button.
3) Press the "**INPUT**" button and "**3**" button simultaneously.
4) This will adjust the head S/W point adjustment automatically.
5) After the adjustment is completed, press "**POWER**" button to release.

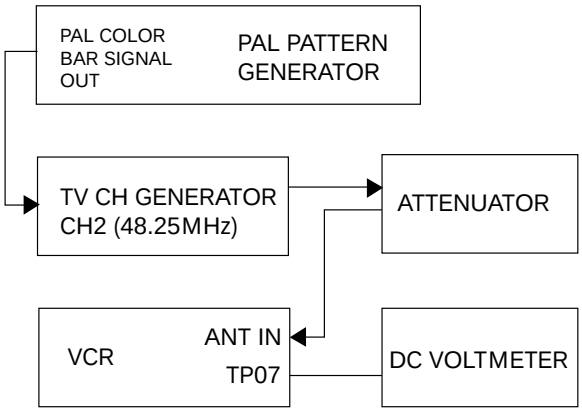
2. When using the "**TEST**" button of remote control ass'y ;

1) Insert an SP tape into the housing ass'y.
2) Press the "**PLAY**" button.
3) Press the "**TEST**" button and "**SPEED**" button simultaneously.
4) This will adjust the head S/W point adjustment automatically.
5) After adjustment is completed, press the "**POWER**" button to release.

5-3-2 RF AGC Adjustment (SV-415F/410F/215F/210F Only)

1. "E-E", (stop mode), RF signal.
2. TP07 (MAIN PCB) and VR4L01 (SUB PCB),
 -. Apply PAL color bar signal to the video input terminal of the TV channel generator and set channel selector to CH2 (48.25 MHz).
 -. Adjust the point signal level so that the output of attenuator is 70dBu.
 -. Apply the output of attenuator to the ANT IN terminal of VCR.
 -. Set the chaneel of VCR to CH2.
 -. Conec DC voltmeter to TP07.
 -. Adjust VR4L01 for DC3.5 ± 0.1V.

* Composition for RF agc Adjustment



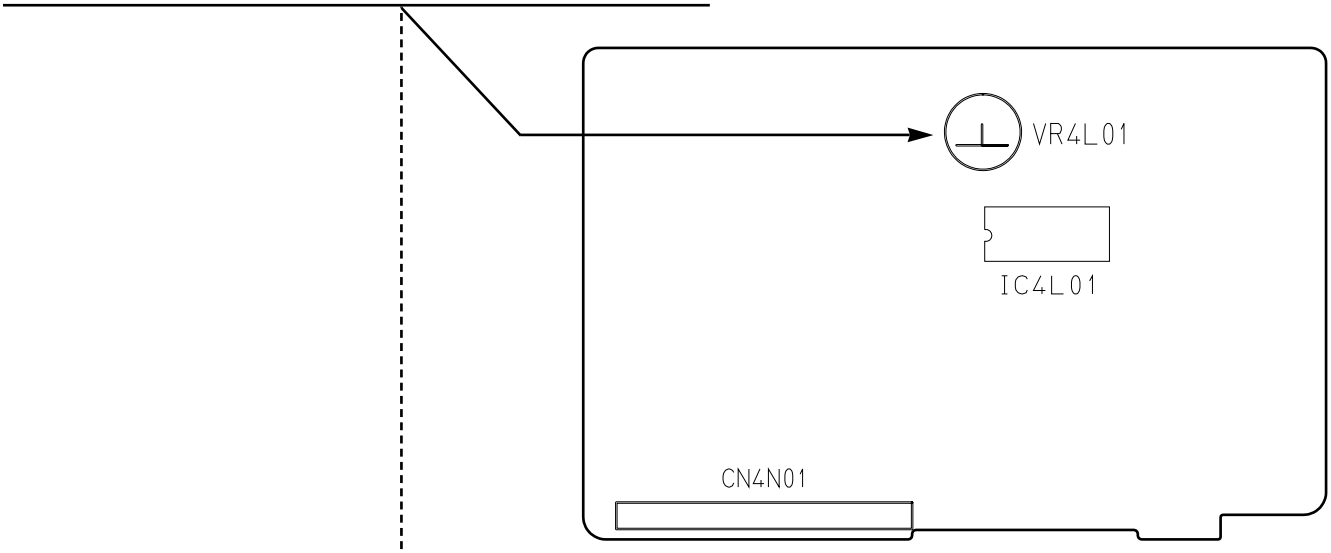


Fig. 5-7 SUB PCB

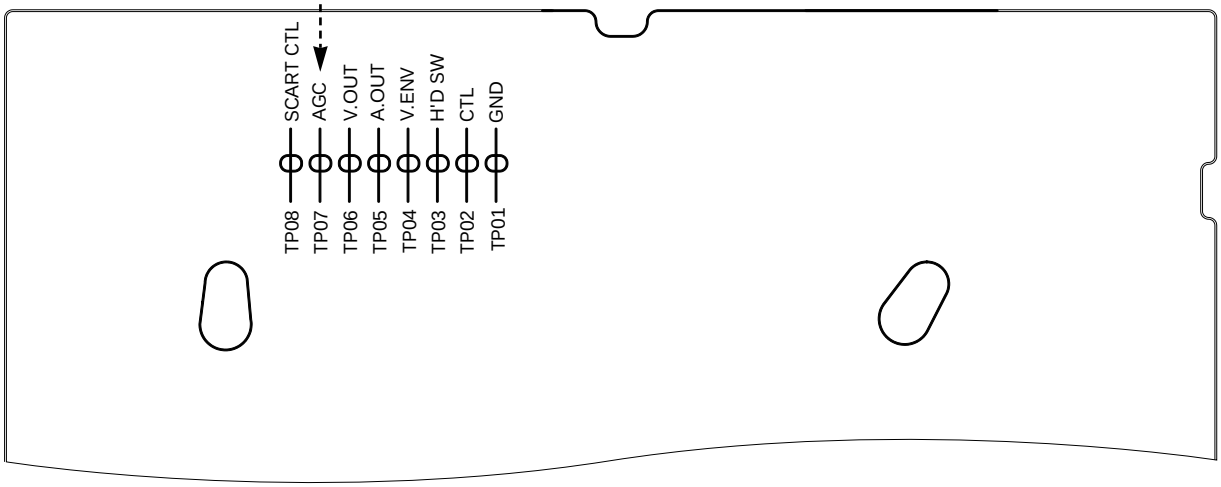


Fig. 5-8 MAIN PCB

6. Exploded View and Parts List

Page

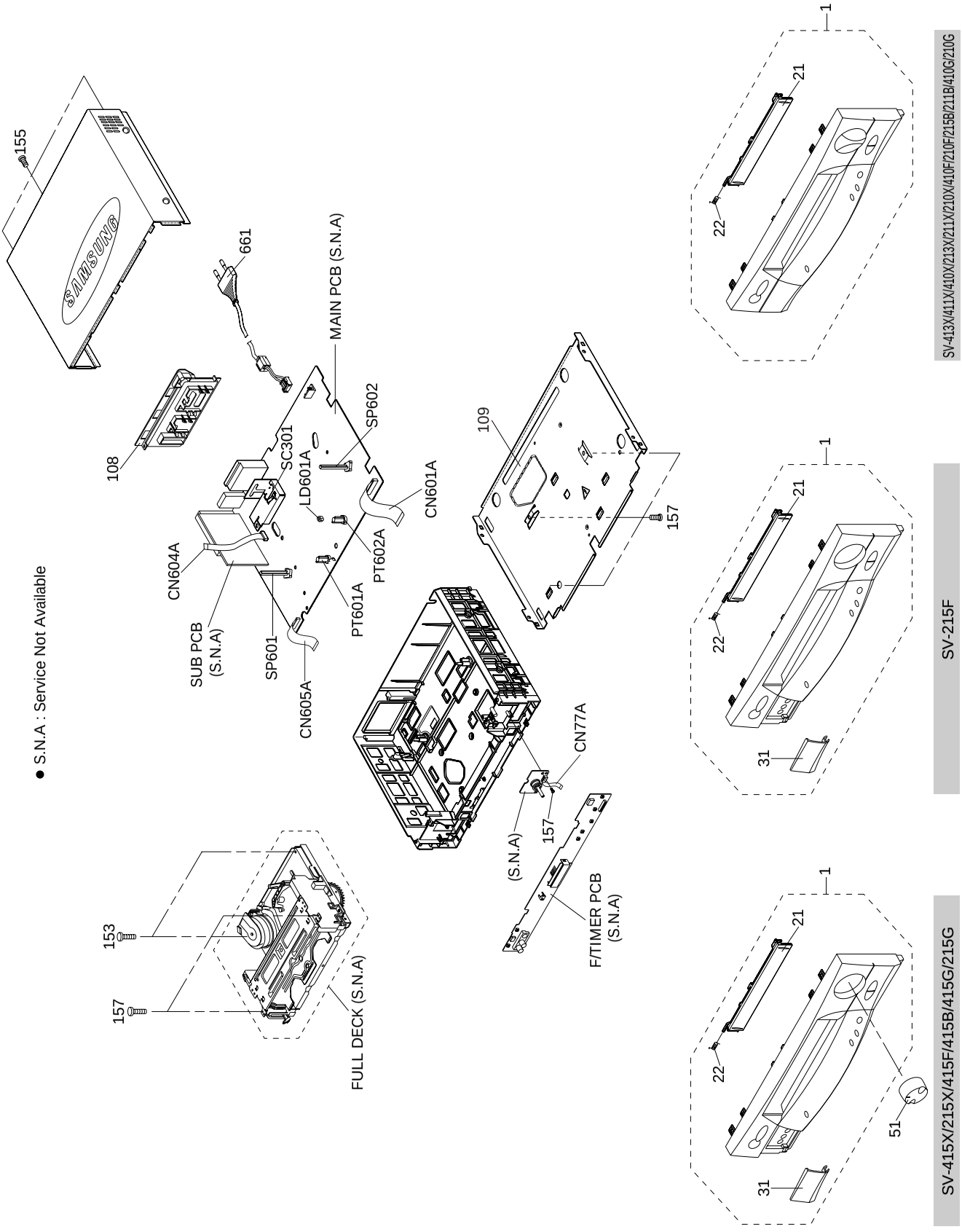
6-1 Cabinet Assembly - 6-2

6-2 Mechanical Parts (Top Side) - 6-4

6-3 Mechanical Parts (Bottom Side) - - - - - - - - - - - - - - - - - - 6-6

6-4 Housing Assembly - 6-8

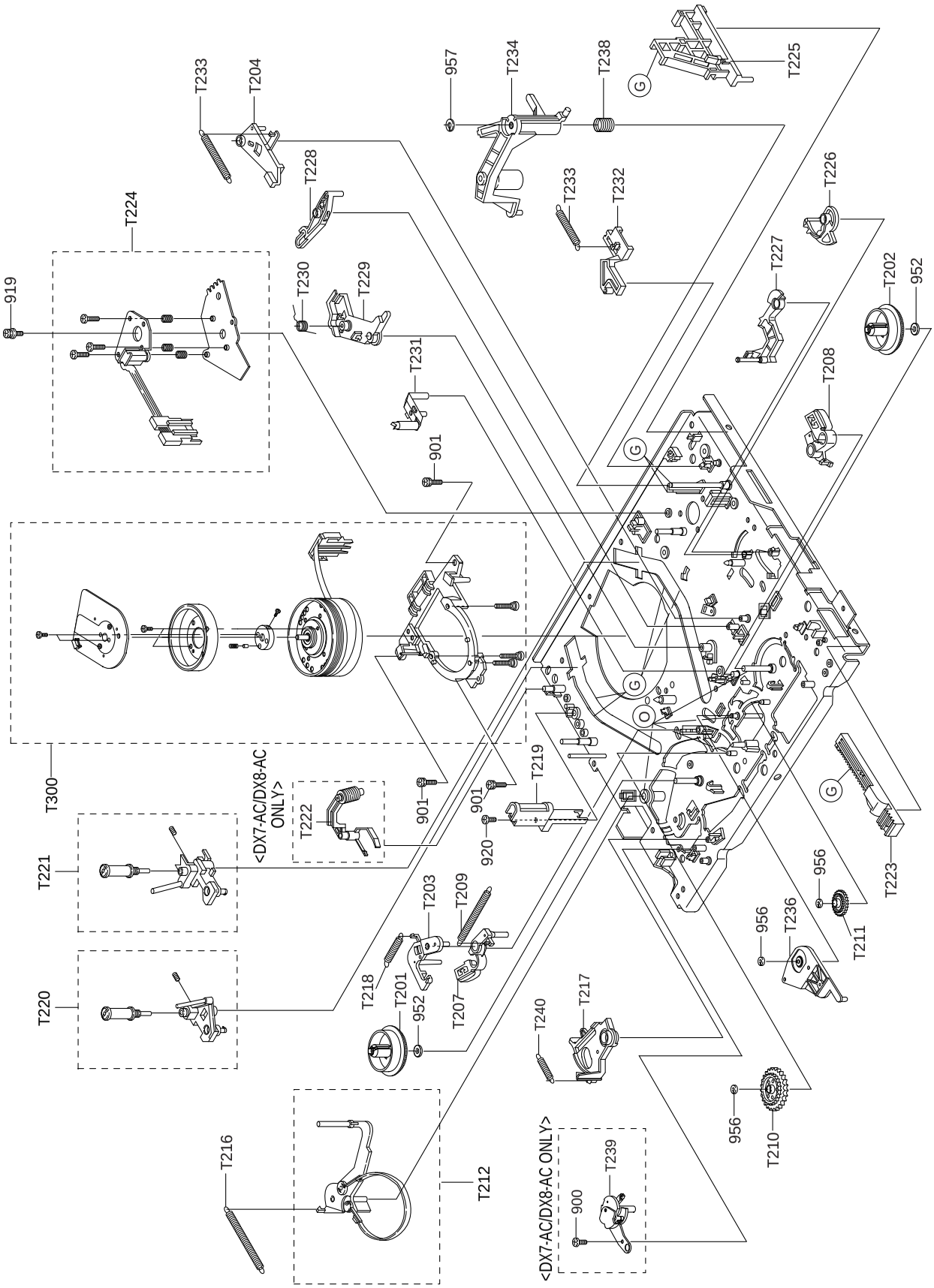
6-1 Cabinet Assembly



Loc. No	Part No	Description and Specification	Remark
1	**Refer to table below**	ASSY-PANEL FRONT	
21	**Refer to table below**	DOOR-CASSETTE	
22	AC61-62003A	SPRING;-,SUS304,(GE/RCA),-,-,-,-	
31	**Refer to table below**	DOOR-FRONT	
51	AC64-10973A	KNOB-SHUTTLE;ABS94,HB,GRY,SV-B80FK,-,-	
108	**Refer to table below**	CONNECTOR BOARD-ASSY	
109	AC63-32127A	COVER-BOTTOM;SV-B80F,SECC,353.2X275,T0.5	
153	AC60-12126A	SCREW-BH;-,BH,-,4*12,FE,FZY,-,-	
155	AC60-12134A	SCREW-TAP BH;-,BH,-,2-4X16,-,FE	
157	AC60-10063A	SCREW-TAPTITE;BH,+,-,M3,L12,ZPC3,SWRCH18	
661	**Refer to table below**	POWER-CORD	
CN601A	3809-001090	CABLE-FLAT;30V,80C,100mm,22P,1.0MM, UL2896	
CN604A	3809-001048	CABLE-FLAT;30V,80C,110mm,6P,1.25MM, UL2896	
CN605A	3809-001049	CABLE-FLAT;30V,80C,100MM,5P,1.25MM, UL2896	
CN77A	3809-001094	CABLE-FLAT;30V,80C,40mm,5P,1.25MM, UL2896	
LD601A	AC61-22345A	HOLDER-LED;POM,-,-,-,-,-	
PT601A	AC61-22344A	HOLDER-PHOTO;POM,-,-,-,-,-	
PT602A	AC61-22344A	HOLDER-PHOTO;POM,-,-,-,-,-	
SP601	AC61-22321A	HOLDER-TR;POM,-,-,-,-,-	
SP602	AC61-22321A	HOLDER-TR;POM,-,-,-,-,-	
SC301	AC98-12023J	ASSY-SH/CASE TOP;SV-A140F,IS-PAL	

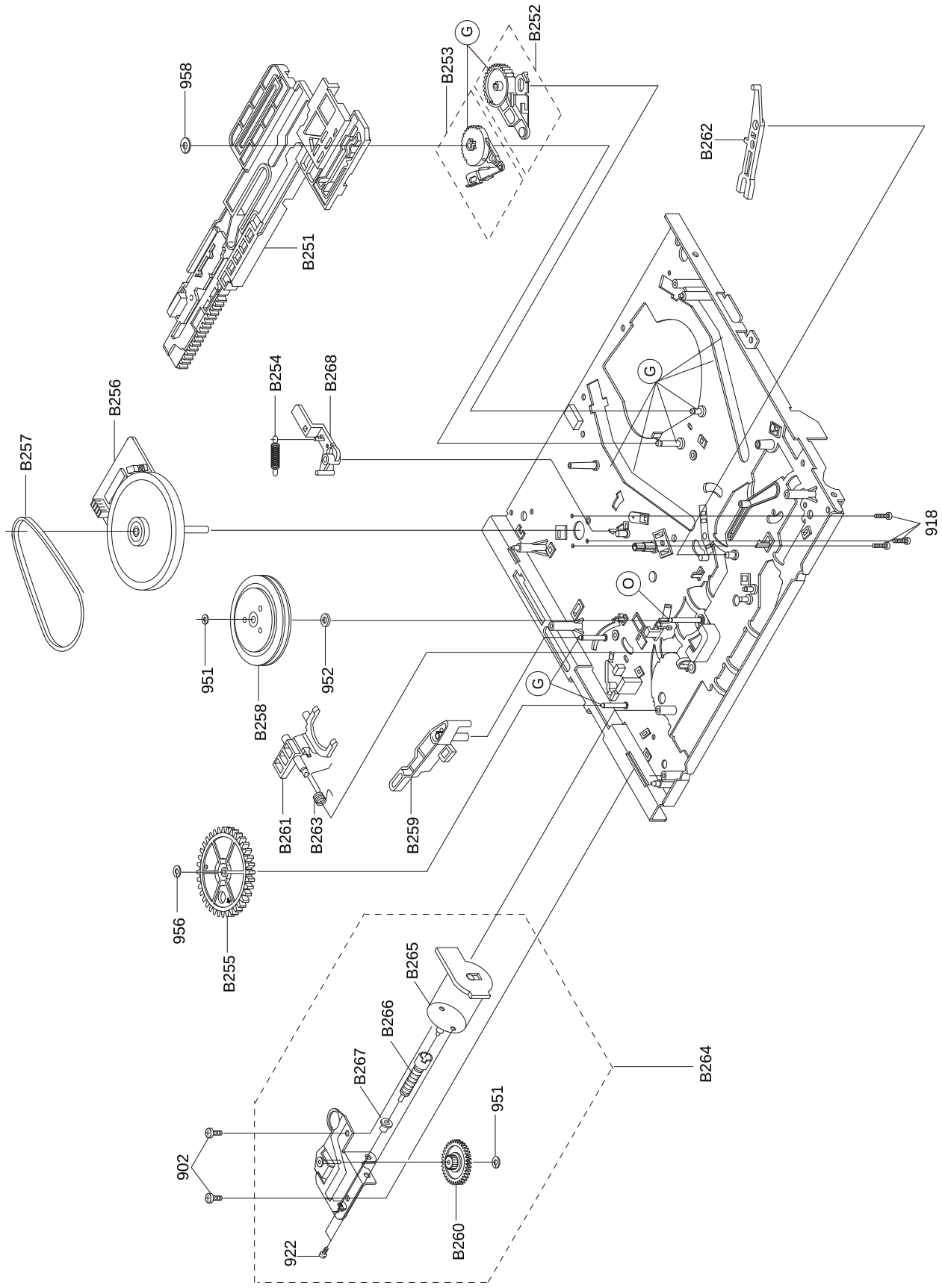
COUNTRY	MODELS	1	21	31	108	661
FINLAND	SV-415X	AC98-11245N	AC64-50958E	AC64-50959B	AC61-11039B	AC39-10019A
SWEDEN	SV-410X	AC98-11245P	AC64-50958E	X	AC61-11039D	AC39-10019A
NORWAY	SV-215X	AC98-11244Z	AC64-50958F	AC64-50959C	AC61-11039B	AC39-10019A
	SV-210X	AC98-11245R	AC64-50958F	X	AC61-11039D	AC39-10019A
FRANCE	SV-415F	AC98-11231J	AC64-50958B	AC64-50959A	AC61-11039A	AC39-10019A
	SV-410F	AC98-11244K	AC64-50958C	X	AC61-11039A	AC39-10019A
	SV-215F	AC98-11244L	AC64-50958B	AC64-50959E	AC61-11039A	AC39-10019A
	SV-210F	AC98-11244M	AC64-50958C	X	AC61-11039A	AC39-10019A
NETHERLANDS	SV-415X	AC98-11245N	AC64-50958E	AC64-50959B	AC61-11039B	AC39-10019A
	SV-410X	AC98-11245P	AC64-50958E	X	AC61-11039D	AC39-10019A
	SV-215X	AC98-11244Z	AC64-50958F	AC64-50959C	AC61-11039B	AC39-10019A
	SV-210X	AC98-11245R	AC64-50958F	X	AC61-11039D	AC39-10019A
SWITZERLAND	SV-413X	AC98-11244X	AC64-50958E	X	AC61-11039B	AC39-10019A
	SV-213X	AC98-11244T	AC64-50958F	X	AC61-11039D	AC39-10019A
	SV-210F	AC98-11244M	AC64-50958C	X	AC61-11039A	AC39-10019A
AUSTRIA	SV-413X	AC98-11244X	AC64-50958E	X	AC61-11039B	AC39-10019A
	SV-213X	AC98-11244T	AC64-50958F	X	AC61-11039D	AC39-10019A
GERMANY	SV-413X	AC98-11244X	AC64-50958E	X	AC61-11039B	AC39-10019A
	SV-213X	AC98-11244T	AC64-50958F	X	AC61-11039D	AC39-10019A
GREECE	SV-410X	AC98-11245P	AC64-50958E	X	AC61-11039D	AC39-10019A
	SV-215X	AC98-11244Z	AC64-50958F	AC64-50959C	AC61-11039D	AC39-10019A
	SV-210X	AC98-11245R	AC64-50958F	X	AC61-11039D	AC39-10019A
ITLAY	SV-413X	AC98-11246L	AC64-50958E	X	AC61-11039B	AC39-10019A
	SV-411X	AC98-11246W	AC64-50958E	X	AC61-11039B	AC39-10019A
	SV-215X	AC98-11244Z	AC64-50958F	AC64-50959C	AC61-11039B	AC39-10019A
	SV-211X	AC98-11245A	AC64-50958F	X	AC61-11039B	AC39-10019A
	SV-472X	AC98-11250R	AC64-50958E	X	AC61-11039B	AC39-10019A
	SV-471X	AC98-11250S	AC64-50958E	X	AC61-11039B	AC39-10019A
	SV-272X	AC98-11250T	AC64-50958F	X	AC61-11039B	AC39-10019A
	SV-271X	AC98-11250U	AC64-50958F	X	AC61-11039B	AC39-10019A
DENMARK	SV-415X	AC98-11245N	AC64-50958E	AC64-50959B	AC61-11039B	AC39-10019A
	SV-410X	AC98-11245P	AC64-50958E	X	AC61-11039D	AC39-10019A
	SV-215X	AC98-11244Z	AC64-50958F	AC64-50959C	AC61-11039B	AC39-10019A
	SV-210X	AC98-11245R	AC64-50958F	X	AC61-11039D	AC39-10019A
PORTUGAL	SV-411X	AC98-11246W	AC64-50958E	X	AC61-11039B	AC39-10019A
	SV-215X	AC98-11244Z	AC64-50958F	AC64-50959C	AC61-11039B	AC39-10019A
	SV-211X	AC98-11244Z	AC64-50958F	X	AC61-11039B	AC39-10019A
SPAIN	SV-411X	AC98-11246W	AC64-50958E	X	AC61-11039B	AC39-10019A
	SV-215X	AC98-11244Z	AC64-50958F	AC64-50959C	AC61-11039B	AC39-10019A
	SV-211X	AC98-11244Z	AC64-50958F	X	AC61-11039B	AC39-10019A
U.K	SV-415B	AC98-11245B	AC64-50958E	AC64-50959F	AC61-11039C	AC39-12022K
	SV-215B	AC98-11245C	AC64-50958F	X	AC61-11039D	AC39-12022K
	SV-213B	AC98-11245D	AC64-50958F	X	AC61-11039D	AC39-12022K
BULGARIA	SV-415G	AC98-11247G	AC64-50958E	AC64-50959G	AC61-11039D	AC39-10019A
	SV-210G	AC98-11248J	AC64-50958F	X	AC61-11039D	AC39-10019A
CZECH.	SV-415G	AC98-11247G	AC64-50958E	AC64-50959G	AC61-11039D	AC39-10019A
	SV-210G	AC98-11248J	AC64-50958F	X	AC61-11039D	AC39-10019A
HUNGARY	SV-415G	AC98-11247G	AC64-50958E	AC64-50959G	AC61-11039D	AC39-10019A
	SV-410G	AC98-11247H	AC64-50958E	X	AC61-11039D	AC39-10019A
	SV-215G	AC98-11247J	AC64-50958F	AC64-50959H	AC61-11039D	AC39-10019A
	SV-210G	AC98-11248J	AC64-50958F	X	AC61-11039D	AC39-10019A
POLAND	SV-415G	AC98-11247G	AC64-50958E	AC64-50959G	AC61-11039D	AC39-10019A
	SV-410G	AC98-11247H	AC64-50958E	X	AC61-11039D	AC39-10019A
	SV-215G	AC98-11247J	AC64-50958F	AC64-50959H	AC61-11039D	AC39-10019A
	SV-210G	AC98-11248J	AC64-50958F	X	AC61-11039D	AC39-10019A
ROMANIA	SV-415G	AC98-11247G	AC64-50958E	AC64-50959G	AC61-11039D	AC39-10019A
	SV-215G	AC98-11248J	AC64-50958F	AC64-50959H	AC61-11039D	AC39-10019A
CROATIA	SV-413X	AC98-11244X	AC64-50958E	X	AC61-11039B	AC39-10019A
	SV-213X	AC98-11244T	AC64-50958F	X	AC61-11039D	AC39-10019A
	SV-210X	AC98-11245R	AC64-50958F	X	AC61-11039D	AC39-10019A
SLOVENIA	SV-413X	AC98-11244X	AC64-50958E	X	AC61-11039B	AC39-10019A
	SV-213X	AC98-11244T	AC64-50958F	X	AC61-11039B	AC39-10019A
	SV-210X	AC98-11245R	AC64-50958F	X	AC61-11039B	AC39-10019A

6-2 Mechanical Parts (Top Side)



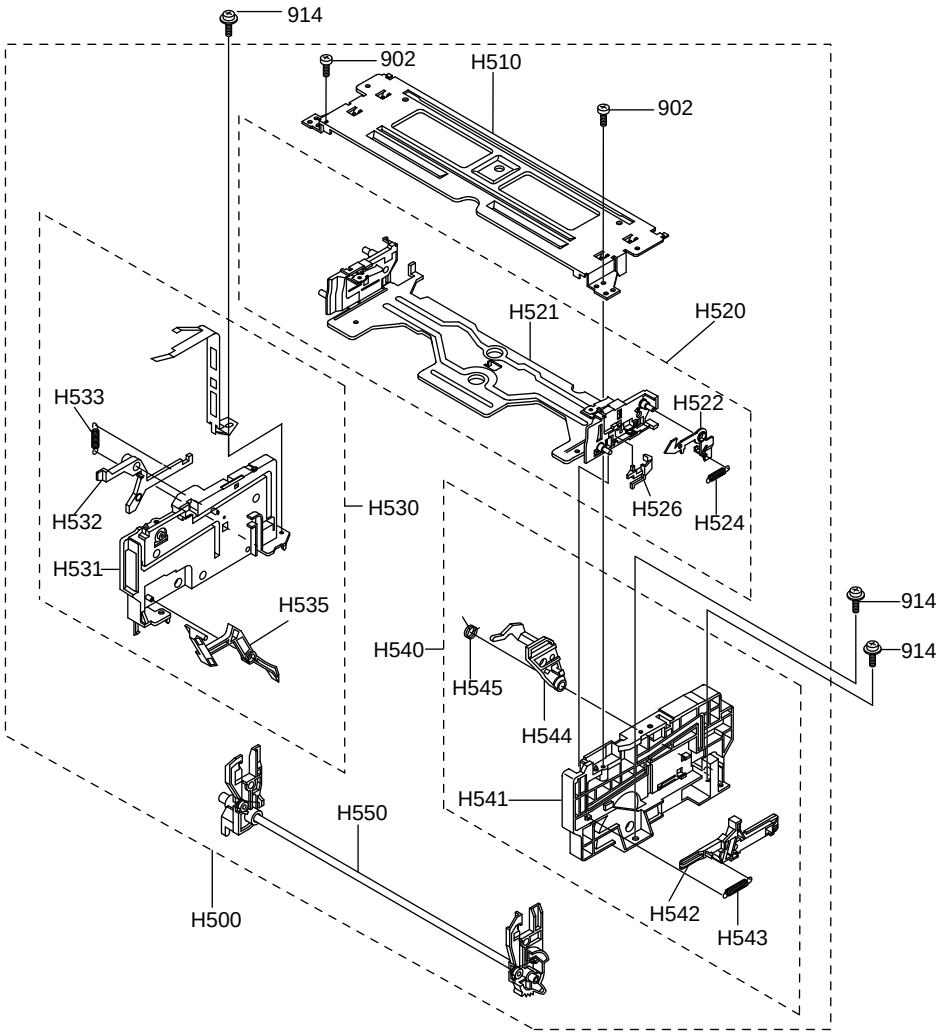
Loc. No	Part No	Description and Specification	Remark
900	AC60-12091A	SCREW-MACHINE;FP,BH,-,M3,L4,SWRCH10A,YEL ROB	(OPTIONAL)
901	AC60-10012A	SCREW-MACHINE;BH,+,M3,L8,-,FE,-,-,-	
919	AC60-10004A	SCREW-MACHINE;BH,+,M3,L8,ZPC,SWRCH18A,-,	
920	AC60-10007A	SCREW-TAPPING;BH,+,M2.6,L12,-,SWRCH18A,-	
952	AC60-30018A	WASHER-PLAIN;PLAIN,M3.2,D6,T0.5,POLYSLID	
956	AC60-30007A	WASHER-SLIT;PLAIN,ID2.5,OD7,T0.5,SPC1,-,	
957	AC60-30008A	WASHER-SLIT;-,ID3.5,OD9,T0.5,SPC1,-,-	
T201	AC66-10023A	REEL-DISK L ASSY;POM,-,PACKAGE,X-5,-	
T202	AC66-10022A	REEL-DISK R (ASSY);POM,-,PACKAGE,X-5,-	
T203	AC66-30474A	BRAKE-SUB L;-,PBT,-,-,-,X-5/IS	
T204	AC66-30148A	BRAKE SUB R;-,-,-,-,X5,-	
T207	AC66-30475A	BRAKE-MAIN L ASS'Y;-,POM+PELT,-,-,-,X-5/	
T208	AC66-30476A	BRAKE-MAIN R ASS'Y;-,POM+PELT,-,-,-,X-5/	
T209	AC61-60112A	SPRING- BRAKE MAIN;ES,SUS304WPB,PI0.35,I	
T210	AC66-20073A	GEAR RELAY S-ASSY;-,-,-,-,-,X5,-	
T211	AC66-20037A	GEAR- RELAY T;PEBAX7033,X-5,Z39,GEAR-SPU	
T212	AC66-30073A	ARM-TENSION ASSY;-,DX5-R,-,-,-,-	
T216	AC61-60119A	SPRING TENSION;ES,SWPB,PI0.4,D3,L33(OD3.	
T217	AC66-30470A	LEVER-REC S/W;-,PBT #3300,T4.0,L32,-,(X-	
T218	AC61-62017A	SPRING-SUB BRAKE L;ES,SUS304,PI0.23,D3.5	
T219	AC33-10003P	HEAD- MAGNET F/E;MH131S,-,-,-,L51.05XW7.	
T220	AC66-82050A	SLIDER-G/R ASSY(S);-,-,-,-,-,X-5	
T221	AC66-82054A	SLIDER-G/R ASSY(T);-,-,-,-,-,X-5	
T222	AC33-10002E	HEAD-CLEANER;-,-,-,X-5	(OPTIONAL)
T223	AC66-20065A	RACK-HOUSING;L74.29,POM M90-44,BLK,M1,3.	
T224	AC33-10216K	HEAD-ACE ALL ASSY;-,-,-,-,X-7A	
T225	AC66-80005A	SLIDER-PINCH;POM(M90-44),T10.5,L54.35,NA	
T226	AC66-30014A	LEVER-REVIEW;ZYTEL(70G-43L),T5,-,PCD25.6	
T227	AC66-30099A	ARM-REVIEW ASSY;-,-,-,-,DX5-R,-	
T228	AC66-30013A	LEVER- CAM;PBT 6300T,-,L45,W9,X-5,-	
T229	AC66-30003A	LEVER-PINCH COMP;PBT 3300,T7.5,L45.25,-,	
T230	AC61-60116A	SPRING- PINCH COMP;TS,SWPB,PI1.0,D6,L38(	
T231	AC67-32001A	PRISM-LED;PMMA,D5,IF-850,-,-,-	
T232	AC66-82049A	SLIDER-PUSH;LUPOX 2150,T2,-,NTR,-	
T233	AC61-62016A	SPRING-SLIDE PUSH;ES,SUS304WPB,PI0.55,D3	
T234	AC59-90402A	UNIT-PINCH ROLLER;X-7A,RESIN BEARING	
T236	AC66-10010A	IDLER-ASSY;PACKAGE,-,X-5,-	
T238	AC61-60132A	SPRING ARM PINCH;CS,SUS304WPB,PI0.4,D7.1	
T239	AC66-30132A	LEVER JOG-ASS'Y;-,-,-,X-5	(OPTIONAL)
T240	AC61-60505A	SPRING-REC S/W;-,ES,SUS304 WPB,PI0.29,PI	
T300	AC96-10475F	ASSY-CYLINDER;CX8A-D4P	(4 H'D NON-DLC)
	AC96-10475G	ASSY-CYLINDER;CX8A-D4P/DLC	(4 H'D DLC)
	AC96-10475D	ASSY-CYLINDER;CX8A-S2P	(2 H'D NON-DLC)
	AC96-10475E	ASSY-CYLINDER;CX8A-S2P/DLC	(2 H'D DLC)
	AC96-10480F	ASSY-CYLINDER;CX8A-S2P(LP)	(2 HEAD ; U.K. ONLY)

6-3 Mechanical Parts (Bottom Side)



Loc. No	Part No	Description and Specification	Remark
902	AC60-10051A	SCREW-TAPPING;BH,-,-,M3,L8,FZY	
918	AC60-10041A	SCREW-TAPPING;BH,+,-,M2.6XL7.5,ZPC3	
922	AC60-10504A	SCREW-MACHINE;-,PH,+,-,M3,L3,FE,FZY,YEL	
951	AC60-30025A	WASHER-SLIT;-,ID2.5,OD5.0,T0.5,POLY SLID	
952	AC60-30018A	WASHER-PLAIN;PLAIN,M3.2,D6,T0.5,POLYSLID	
956	AC60-30007A	WASHER-SLIT;PLAIN,ID2.5,OD7,T0.5,SPC1,-,	
958	AC60-30028A	WASHER-SLIT;-,D2.5,D9.0,T0.5,NUMIRROR,-,	
B251	AC66-82043A	SLIDER-MAIN;TOPEX 4010S,-,-,-,-	
B252	AC66-20019A	GEAR-LOADING L ASSY;-,-,-,PACKAGE,-,X-5,	
B253	AC66-20069A	GEAR-LOADING R ASSY;-,-,-,-,-,X5,-	
B254	AC61-60115A	SPRING-BRAKE CAPSTAN;ES,SUS304WPB,PI0.4,	
B255	AC66-20004A	GEAR-MASTER;POM (M90-44),M 1,Z 60,SP,-,X	
B256	AC31-12006A	MOTOR-D/D CAPSTAN;DMVCMC07A,-,-	
B257	AC66-62008A	BELT-CAPSTAN;-,DLB-601,T2,8,L134.9,BLK,X	
B258	AC66-20066A	GEAR-CLUTCH ASSY;X-5,-,-,-,-,-,-	
B259	AC66-32185A	LEVER-SLIDER PINCH;PBT,T4,NAT,-,-,-	
B260	AC66-20016A	GEAR- WORM WHEEL;POM SW-01,M0.55/M1,Z57/	
B261	AC66-30011A	LEVER- SHIFT;PBT2002K,T10.9,L35,-,-,-	
B262	AC66-30012A	LEVER- IDELR CHANGE;PBT330,T33,L50,-,W6.	
B263	AC61-60111A	SPRING-LEVER SHIFT;TS,SWPB,PI0.7,D5.5,L1	
B264	AC59-90001A	UNIT-LOADING ASSY;X-5,-,-	
B265	AC31-12015A	MOTOR-LOADING ASSY;POM+RF370C X-5	
B266	AC66-20039A	GEAR- WORM LO;PBT 2002K,-,-,-,D4.5,3,-	
B267	AC61-20224A	HOLDER SHAFT;POM M90-44,T1.25,NTR,PI5XH5	
B268	AC66-30149A	BRAKE CAPSTAN;-,-,-,-,X5,-	

6-4 Housing Assembly



Loc. No	Part No	Description and Specification	Remark
902	AC60-10051A	SCREW-TAPPING;BH,-,-,M3,L8,FZY	
914	AC60-10067A	SCREW-TAPTITE;PWH,+,-,M3,L8,MFZN2-C,SWCH	
H500	AC61-82014D	HOUSING-ASSY;-,X7FL26280B,230X130X60,-,X	
H510	AC61-10006A	CHASSIS- UPPER;SECC 20/20,-,T1.0,BLK,-,X	
H520	AC61-20932B	HOLDER-CASSETTE ASSY;-,X5FL06080A,-,-,-	
H521	AC61-20922B	HOLDER-CASSETTE;-,SECC T1.2,-,NAT,-,X-7(	
H522	AC66-30018A	LEVER-LOCK R;SECC 20/20,T1.2,L44,W32,-,-	
H524	AC61-60121A	SPRING-LEVER LOCK;ES,SUS304 WPB,PI0.2,D2	
H526	AC66-30019A	LEVER-KEY CASSETTE;LUCEL N109-LD,T2.5,L2	
H530	AC61-11033A	CHASSIS-SIDE L ASSY;-,-,-,-,-,X5FL0505A,	
H531	AC61-10004A	CHASSIS- SIDE L;ABS HF-380,-,T10,BLK,-,X	
H532	AC66-30004A	LEVER- LIGHT SHUTTER;LUCEL N109-LD,T2.5,	
H533	AC61-60142A	SPRING- LIGHT;ES,SUS304WPB,PI0.2,L11.4(O	
H535	AC66-30017A	LEVER- DOOR;LUCELN109-LD,T3.5,L74.3,W21.	
H540	AC61-11032A	CHASSIS-SIDE R ASSY;-,-,-,-,-,X5FL0505A,	
H541	AC61-10003A	CHASSIS- SIDE R;ABS HF-380,-,T10,BLK,-,X	
H542	AC66-80008A	SLIDER DAMPER;LUCEL N109-LD,T4,L87,-,-,-	
H543	AC61-60120A	SPRING-SLIDER;ES,SUS 304WPB,PI0.4,D3.8,L	
H544	AC66-30016A	LEVER- LID OPENER;LUCEL N109-LD,T4.0,L34	
H545	AC61-60123A	SPRING-LID OPENER;TS,SWPB,PI0.55,D8.9,L1	
H550	AC61-50654A	SHAFT-ARM ASSY;-,SUM24L,-,-,-,-,X-5	

7. Electrical Parts List

Loc.No	Part No	Desc and Spec	Remark
	-	**ASSY-MAIN**	**S.N.A**
SMPS/POWER PARTS			
C1P01	2401-001952	C-AL;4.7UF,20%,50V,-,TP,6.3X7,5	
C1P02	2301-000383	C-FILM,PEF;10nF,5%,50V,6x7x3.2mm,5mm,TP	
C1P03	2203-001724	C-CERAMIC,CHIP;4.7UF,+80-20%,16V,Y5V,321	
C1P04	2401-001975	C-AL;47UF,20%,16V,GP,TP,5X11MM,5	
C1P05	2401-001978	C-AL;47UF,20%,25V,GP,TP,6.3X5,5	
C1P06	2401-001915	C-AL;1uF,20%,50V,GP,TP,3x5,1mm	
C1P09	2401-001912	C-AL;1uF,20%,50V,GP,5x11mm,2mm,BK	
C1P10	2202-000797	C-CERAMIC,MLC-AXIAL;10NF,30%,16V,Y5P,TP,	
C1S03	2305-001021	C-FILM,MPEF;100nF,20%,275V,TP,17.5x7x13.	⚠
C1S04	2305-001021	C-FILM,MPEF;100nF,20%,275V,TP,17.5x7x13.	⚠
C1S05	2201-000808	C-CERAMIC,DISC;2.2nF,10%,400V,Y5P,12x7.5	
C1S06	2201-000934	C-CERAMIC,DISC;3.3nF,20%,400V,Y5P,18x8,1	
C1S08	2401-003302	C-AL;47uF,20%,400V,GP,TP,18X31.5,7.	⚠
C1S09	2201-000934	C-CERAMIC,DISC;3.3nF,20%,400V,Y5P,18x8,1	
C1S10	2201-000915	C-CERAMIC,DISC;100pF,10%,1KV,Y5P,TP,6x5,	
C1S16	2201-000795	C-CERAMIC,DISC;10nF,10%,400V,Y5P,15x10,5	
C1S21	2401-000905	C-AL;22UF,20%,16V,BP,-,6X11,2.5MM	
C1S22	2301-000361	C-FILM,PEF;1.2NF,10%,50V,TP,-,5MM	
C1S23	2301-000442	C-FILM,PEF;4.7nF,10%,50V,TP,5.5x7x3mm,5m	
C1S30	2401-000385	C-AL;10UF,20%,100V,GP,-,6.3X11,2.5M	
C1S31	2401-001134	C-AL;330UF,20%,35V,WT,TP,10X16,5MM	
C1S32	2401-001998	C-AL;1000uF,20%,25V,GP,TP,10x20,5mm	
C1S33	2401-001125	C-AL;330UF,20%,25V,WT,TP,10X12.5,5M	
C1S34	2401-002162	C-AL;1000uF,20%,25V,WT,TP,10x20,5mm	
C1S35	2401-001355	C-AL;470UF,20%,10V,GP,-,8X11.5,5MM	
C1S38	2301-000129	C-FILM,PEF;100nF,5%,50V,10X9X4.3X5,5mm,T	
CN1S1	3711-000178	CONNECTOR-HEADER;1WALL,2P,1R,3.96mm,STRA	
D1P01	0402-000132	DIODE-RECTIFIER;1N4004,400V,1A,DO-41	
D1P02	0402-000132	DIODE-RECTIFIER;1N4004,400V,1A,DO-41	
D1P03	0402-000132	DIODE-RECTIFIER;1N4004,400V,1A,DO-41	
D1P04	0402-000132	DIODE-RECTIFIER;1N4004,400V,1A,DO-41	
D1P06	0401-000101	DIODE-SWITCHING;1N4148,100V,200mA,500mW,	
D1P20	0402-000132	DIODE-RECTIFIER;1N4004,400V,1A,DO-41	
D1S01	0402-001009	DIODE-RECTIFIER;1SR139,600V,1A,MSR	⚠
D1S02	0402-001009	DIODE-RECTIFIER;1SR139,600V,1A,MSR	⚠
D1S03	0402-001009	DIODE-RECTIFIER;1SR139,600V,1A,MSR	⚠
D1S04	0402-001009	DIODE-RECTIFIER;1SR139,600V,1A,MSR	⚠
D1S05	0402-000378	DIODE-RECTIFIER;EG01C,1000V,500mA,DO-41	
D1S07	0402-001013	DIODE-RECTIFIER;1SR153-400,400V,800mA,DO	
D1S08	0401-000101	DIODE-SWITCHING;1N4148,100V,200mA,500mW,	
D1S30	0402-001013	DIODE-RECTIFIER;1SR153-400,400V,800mA,DO	
D1S31	0402-001013	DIODE-RECTIFIER;1SR153-400,400V,800mA,DO	
D1S33	0402-000431	DIODE-RECTIFIER;FML-M02S,200V,2.5A,TO-22	
D1S43	0402-001069	DIODE-RECTIFIER;RL10Z,200V,2A,DO,TP	
F1S01	A3065-0157	FUSE;FST 250V 1.6A 20MM SEMKO S505 C	⚠
IC1P01	AC14-12001E	IC;KA7809,-,-	
IC1S2	0604-011028	PHOTO-COUPLER;PS2561-1 ST DIP	⚠
IC1S3	AC14-12006D	IC;KA431Z,TO-92,TAPING	⚠
L1S01	AC29-30050A	FILTER-LINE NOISE;-,400UH,-,250V,-	⚠
L1S02	A1151-0042	COIL-LINE FILTER;BSF-2120Z 25MH 3.2OHM	⚠
L1S03	3301-000297	CORE-FERRITE BEAD;AA,3.6x1.2x5.7mm,1400,	
L1S05	AC27-92001M	INDUCTOR;70UH-M RT BFS3565R2F,-,-,-,-	

Loc.No	Part No	Desc and Spec	Remark
L1S30	AC27-12001N	COIL-CHOKE;10UH-15%,RA,K-30,Q80,150KHZ,-	
L1S31	AC27-12001N	COIL-CHOKE;10UH-15%,RA,K-30,Q80,150KHZ,-	
L1S32	AC27-92001M	INDUCTOR;70UH-M RT BFS3565R2F,-,-,-,-	
L1S33	AC27-92001M	INDUCTOR;70UH-M RT BFS3565R2F,-,-,-,-	
PT1S01	AC26-20120E	TRANS-SWITCHING;DP,120V,UL/CSA,EE2821,1.	⚠
Q1P01	0501-000610	TR-SMALL SIGNAL;KSA928A-Y,PNP,1W,TO-92L,	
Q1P02	0504-000116	TR-DIGITAL;KSR1001,NPN,300mW,4.7K-4.7K,T	
Q1P03	0501-000610	TR-SMALL SIGNAL;KSA928A-Y,PNP,1W,TO-92L,	
Q1P04	0504-000118	TR-DIGITAL;KSR1003,NPN,300mW,22K-22K,TO-	
Q1P05	0501-000616	TR-SMALL SIGNAL;KSC2328A-Y,NPN,1W,TO-92L	
Q1P06	0501-000616	TR-SMALL SIGNAL;KSC2328A-Y,NPN,1W,TO-92L	
Q1P07	0501-000398	TR-SMALL SIGNAL;KSC945,NPN,250mW,TO-92,T	
Q1S01	0502-001050	TR-POWER;2SC4517A,NPN,30W,TO-220,ST,10-	
Q1S02	0501-000442	TR-SMALL SIGNAL;KTC3203-Y,NPN,400MW,T0-9	
R1P01	2004-001096	R-METAL;560ohm,5%,1/4W,AA,TP,2.4X6.4mm	
R1P02	2004-001096	R-METAL;560ohm,5%,1/4W,AA,TP,2.4X6.4mm	
R1P03	2001-000273	R-CARBON;100Kohm,5%,1/8W,AA,TP,1.8x3.2m	
R1P04	2001-000611	R-CARBON;3.9Kohm,5%,1/4W,AA,TP,2.4x6.4mm	
R1P05	2001-000449	R-CARBON;2.2Kohm,5%,1/8W,AA,TP,1.8x3.2m	
R1P06	2001-000429	R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R1P07	2007-001637	R-CHIP,MELF;1.2Kohm,5%,1/8W,DB,BK,2012	
R1P09	2004-000571	R-METAL;220ohm,5%,1/4W,AA,TP,2.4x6.4mm	
R1P10	2001-000449	R-CARBON;2.2Kohm,5%,1/8W,AA,TP,1.8x3.2m	
R1S03	2001-000305	R-CARBON;110Kohm,5%,1/8W,AA,TP,1.8x3.2m	
R1S06	2006-000273	R-CEMENT;27Kohm,5%,2W,CA,BK,6.4x27x6.4m	
R1S07	2001-000003	R-CARBON;330ohm,5%,1/8W,AA,TP,1.8x3.2mm	
R1S11	2006-000262	R-CEMENT;2.7ohm,10%,2W,CB,ST,7.5x11x20.	
R1S12	2001-000305	R-CARBON;110Kohm,5%,1/8W,AA,TP,1.8x3.2m	
R1S13	2001-000305	R-CARBON;110Kohm,5%,1/8W,AA,TP,1.8x3.2m	
R1S14	2001-000305	R-CARBON;110Kohm,5%,1/8W,AA,TP,1.8x3.2m	
R1S16	2003-000264	R-METAL OXIDE;300ohm,5%,1W,AD,TP,4.3x12m	
R1S19	2001-000003	R-CARBON;330ohm,5%,1/8W,AA,TP,1.8x3.2mm	
R1S21	2003-000119	R-METAL OXIDE;0.68ohm,5%,2W,AE,TP,6x16mm	
R1S30	2001-000515	R-CARBON ;220OHM,5%,1/8W,AA,TP	
R1S31	2001-000221	R-CARBON;1.2Kohm,5%,1/8W,AA,TP,1.8x3.2m	
R1S32	2001-000429	R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R1S33	2004-000869	R-METAL;3Kohm,1%,1/8W,AA,TP,1.8x3.2mm	
R1S34	2004-000459	R-METAL;2.2Kohm,1%,1/8W,AA,TP,1.	
VA1S01	1405-000186	VARISTOR;470V,4500A,17x12mm,TP	⚠
VA1S02	1405-000186	VARISTOR;470V,4500A,17x12mm,TP	⚠
ZD1P01	0403-000390	DIODE-ZENER;UZP33B,33V,31.4-34.6V,1W,DO-	
ZD1P02	0403-000717	DIODE-ZENER;MTZJ5.1B,5.1V,4.94-5.2V,500m	
ZD1S30	0403-000571	DIODE-ZENER;UZP43B,43V,40-46V,1W,DO-41,T	
SYSTEM CONTROL/SERVO			
C601	2203-002188	C-CERAMIC,CHIP;10NF,+80-20%,16V,Y5V,TP,2	
C602	2202-000807	C-CERAMIC,MLC-AXIAL;22NF,+80-20%,25V,Y5V	
C603	2203-001557	C-CERAMIC,CHIP;100NF,+80-20%,25V,Y5V,TP,	
C604	2203-002188	C-CERAMIC,CHIP;10NF,+80-20%,16V,Y5V,TP,2	
C605	2202-000791	C-CERAMIC,MLC-AXIAL;150PF,10%,50V,Y5P,TP	
C606	2202-000797	C-CERAMIC,MLC-AXIAL;10NF,30%,16V,Y5P,TP,	
C607	2203-002188	C-CERAMIC,CHIP;10NF,+80-20%,16V,Y5V,TP,2	
C608	2203-001557	C-CERAMIC,CHIP;100NF,+80-20%,25V,Y5V,TP,	
C609	2203-001679	C-CERAMIC,CHIP;68NF,+80-20%,25V,Y5V,TP,2	

Loc.No	Part No	Desc and Spec	Remark
C610	2203-001679	C-CERAMIC,CHIP;68NF,+80-20%,25V,Y5V,TP,2	
C6101	2202-000780	C-CERAMIC,MLC-AXIAL;100nF,+80-20%,50V,Y5	
C6102	2203-000239	C-CERAMIC,CHIP;100pF,5%,50V,NPO,TP,2012,	
C6103	2202-000216	C-CERAMIC,MLC-AXIAL;27pF,5%,50V,SL,TP,3.	
C6104	2202-000216	C-CERAMIC,MLC-AXIAL;27pF,5%,50V,SL,TP,3.	
C6105	2203-002188	C-CERAMIC,CHIP;10NF,+80-20%,16V,Y5V,TP,2	
C6106	2301-000392	C-FILM,PEF;15nF,5%,50V,6.5x8.5x3.2mm,5mm	
C6107	2203-000818	C-CERAMIC,CHIP;33pF,5%,50V,NPO,TP,2012,-	
C611	2201-000928	C-CERAMIC,DISC;2.7NF,20%,16V,Y5R,TP,3.5X	
C6114	2201-000800	C-CERAMIC,DISC;120PF,5%,50V,SL,TP,5X3,5	
C6116	2203-001612	C-CERAMIC,CHIP MELF;22PF,5%,50V,SL,TP,20	
C6117	2203-001612	C-CERAMIC,CHIP MELF;22PF,5%,50V,SL,TP,20	
C6119	2401-001975	C-AL;47UF,20%,16V,GP,TP,5X11MM,5	
C612	2202-000791	C-CERAMIC,MLC-AXIAL;150PF,10%,50V,Y5P,TP	
C6120	2202-000780	C-CERAMIC,MLC-AXIAL;100nF,+80-20%,50V,Y5	
C6122	2401-001952	C-AL;4.7UF,20%,50V,-,TP,6.3X7,5	
C6123	2401-001978	C-AL;47UF,20%,25V,GP,TP,6.3X5,5	
C6124	2401-001325	C-AL;470nF,20%,50V,GP,TP,3x5,5	
C6125	2203-002188	C-CERAMIC,CHIP;10NF,+80-20%,16V,Y5V,TP,2	
C6126	2401-000419	C-AL;10UF,20%,16V,GP,-,4X7,5	
C6127	2203-001659	C-CERAMIC,CHIP MELF;47PF,5%,50V,SL,TP,20	
C613	2203-001557	C-CERAMIC,CHIP;100NF,+80-20%,25V,Y5V,TP,	
C614	2203-002188	C-CERAMIC,CHIP;10NF,+80-20%,16V,Y5V,TP,2	
C615	2203-002188	C-CERAMIC,CHIP;10NF,+80-20%,16V,Y5V,TP,2	
C616	2203-001696	C-CERAMIC,CHIP MELF;82PF,10%,50V,Y5P,TP,	
C617	2202-000796	C-CERAMIC,MLC-AXIAL;UP050 B102KB INF,10%	
C618	2203-001702	C-CERAMIC,CHIP;2.2nF,5%,50V,X7R,2012,-,T	
C619	2203-001696	C-CERAMIC,CHIP MELF;82PF,10%,50V,Y5P,TP,	
C620	2203-001696	C-CERAMIC,CHIP MELF;82PF,10%,50V,Y5P,TP,	
C623	2203-001580	C-CERAMIC,CHIP MELF;15PF,5%,50V,SL,TP,20	
C624	2203-001580	C-CERAMIC,CHIP MELF;15PF,5%,50V,SL,TP,20	
C625	2203-001580	C-CERAMIC,CHIP MELF;15PF,5%,50V,SL,TP,20	
C626	2203-001580	C-CERAMIC,CHIP MELF;15PF,5%,50V,SL,TP,20	
C627	2202-000807	C-CERAMIC,MLC-AXIAL;22NF,+80-20%,25V,Y5V	
C628	2202-000807	C-CERAMIC,MLC-AXIAL;22NF,+80-20%,25V,Y5V	
C630	2202-000780	C-CERAMIC,MLC-AXIAL;100nF,+80-20%,50V,Y5	
C632	2401-001511	C-AL;47UF,20%,16V,GP,-,6X7,5	
C633	2401-001904	C-AL;10UF,20%,16V,-,TP,4X7MM,5	
C634	2401-000208	C-AL;100nF,+80-20%,5.5V,GP,TP,12.3m	
C635	2401-000199	C-AL;1000UF,20%,6.3V,GP,TP,10X12.5,	
C636	2401-001978	C-AL;47UF,20%,25V,GP,TP,6.3X5,5	
C637	2401-001978	C-AL;47UF,20%,25V,GP,TP,6.3X5,5	
C638	2401-001915	C-AL;1uF,20%,50V,GP,TP,3x5,1mm	
C639	2401-001904	C-AL;10UF,20%,16V,-,TP,4X7MM,5	
C640	2401-001978	C-AL;47UF,20%,25V,GP,TP,6.3X5,5	
C642	2401-000912	C-AL;22UF,20%,16V,GP,-,5X5,5	
C643	2401-000912	C-AL;22UF,20%,16V,GP,-,5X5,5	
C645	2203-000477	C-CERAMIC,CHIP;1uF,+80-20%,16V,Y5V,TP,20	
C650	2203-002188	C-CERAMIC,CHIP;10NF,+80-20%,16V,Y5V,TP,2	
C651	2401-001511	C-AL;47UF,20%,16V,GP,-,6X7,5	
C652	2202-000780	C-CERAMIC,MLC-AXIAL;100nF,+80-20%,50V,Y5	
C660	2203-001702	C-CERAMIC,CHIP;2.2nF,5%,50V,X7R,2012,-,T	
C661	2203-001702	C-CERAMIC,CHIP;2.2nF,5%,50V,X7R,2012,-,T	
C663	2203-000374	C-CERAMIC,CHIP;15nF,10%,50V,X7R,TP,2012,	
C671	2203-001557	C-CERAMIC,CHIP;100NF,+80-20%,25V,Y5V,TP,	
C675	2401-001975	C-AL;47UF,20%,16V,GP,TP,5X11MM,5	
C676	2202-000797	C-CERAMIC,MLC-AXIAL;10NF,30%,16V,Y5P,TP,	
C677	2202-000797	C-CERAMIC,MLC-AXIAL;10NF,30%,16V,Y5P,TP,	
C678	2401-001915	C-AL;1uF,20%,50V,GP,TP,3x5,1mm	
C681	2203-001557	C-CERAMIC,CHIP;100NF,+80-20%,25V,Y5V,TP,	

Loc.No	Part No	Desc and Spec	Remark
C682	2202-000780	C-CERAMIC,MLC-AXIAL;100nF,+80-20%,50V,Y5	
C698	2203-001557	C-CERAMIC,CHIP;100NF,+80-20%,25V,Y5V,TP,	
CN601	3708-001251	CONNECTOR-FPC/FC/PIC;22P,1mm,STRAIGHT-F,	
CN602	3711-002445	CONNECTOR-HEADER;BOX,2P,2R,1.5MM,STRAIGH	
CN603	3711-003749	CONNECTOR-HEADER;BOX,8P,2R,2mm,STRAIGHT,	
CN604	3708-001165	CONNECTOR-FPC/FC/PIC;6P,1.25mm,STRAIGHT,	
CN605	3708-001163	CONNECTOR-FPC/FC/PIC;5P,1.25mm,STRAIGHT,	
D605	0402-000132	DIODE-RECTIFIER;1N4004,400V,1A,DO-41	
D608	0401-000101	DIODE-SWITCHING;1N4148,100V,200mA,500mW,	
D609	0401-000101	DIODE-SWITCHING;1N4148,100V,200mA,500mW,	
D6102	0401-000101	DIODE-SWITCHING;1N4148,100V,200mA,500mW,	
D6104	0401-000101	DIODE-SWITCHING;1N4148,100V,200mA,500mW,	
D6105	0401-000101	DIODE-SWITCHING;1N4148,100V,200mA,500mW,	
D6106	0401-000101	DIODE-SWITCHING;1N4148,100V,200mA,500mW,	
D611	0402-000132	DIODE-RECTIFIER;1N4004,400V,1A,DO-41	
D612	0402-000132	DIODE-RECTIFIER;1N4004,400V,1A,DO-41	
D613	0402-000132	DIODE-RECTIFIER;1N4004,400V,1A,DO-41	
D614	0401-000101	DIODE-SWITCHING;1N4148,100V,200mA,500mW,	
D615	0401-000101	DIODE-SWITCHING;1N4148,100V,200mA,500mW,	
IC601	Refer to table below	IC-MCU;100PIN,QFP	

Country	Part No	Specification
Italy/Spain/Portugal/U.K	AC09-10457F	HD6433977RA90F
Germany/Poland/Hungary/Austria Switzerlands/Bulgaria/Czech./Romania	AC09-10456L	HD6433977RA87F
France/Netherlands/Finland/Sweeden/Norway Denmark/Greece/Croatia/Slovenia Switzerlands - SV-210F	AC09-10457K	HD6433977RA92F

IC602	1003-001090	IC-MOTOR DRIVER;LB1643,SIP,10P,-,SINGLE,	
IC603	1201-000230	IC-OP AMP;6324,DIP,14P,-,QUAD,15/100mV,P	
IC604	AC14-12006C	IC;KA7533,DIP,-	
IC605	1103-001020	IC-EEPROM;24LC04,4Kx8BIT,DIP,8P,300MIL,-	
IC606	AC14-12009E	IC;HCF4094BE/TC4094BP,DIP,LOGIC	
L601	AC27-92001B	COIL-PEAKING AXIAL;BAL04ST101K,-,-,-,-	
L602	AC27-92001B	COIL-PEAKING AXIAL;BAL04ST101K,-,-,-,-	
L603	AC27-92001B	COIL-PEAKING AXIAL;BAL04ST101K,-,-,-,-	
L604	2701-000131	INDUCTOR-AXIAL;15UH,5%,2.4X3.4MM	
L605	AC27-92001B	COIL-PEAKING AXIAL;BAL04ST101K,-,-,-,-	
L606	3301-000297	CORE-FERRITE BEAD;AA,3.6x1.2x5.7mm,1400,	
L6101	AC27-92001B	COIL-PEAKING AXIAL;BAL04ST101K,-,-,-,-	
L6103	2701-000117	INDUCTOR-AXIAL;10uH,5%,2.4x3.4mm	
L6P02	3301-000297	CORE-FERRITE BEAD;AA,3.6x1.2x5.7mm,1400,	
LD601	0601-000495	LED-IR;ROUND,3mm,150mW,6V,950nm,BK	
PT601	0604-000188	PHOTO-INTERRUPTER;TR,-,-,DIP-4,TR	
PT602	0604-000188	PHOTO-INTERRUPTER;TR,-,-,DIP-4,TR	
Q601	0501-000398	TR-SMALL SIGNAL;KSC945,NPN,250mW,TO-92,T	
Q602	0501-000398	TR-SMALL SIGNAL;KSC945,NPN,250mW,TO-92,T	
Q604	0501-000303	TR-SMALL SIGNAL;KSA733-Y,PNP,250mW,TO-92	
Q607	0504-000142	TR-DIGITAL;KSR2001,PNP,300mW,4.7K-4.7K,T	
Q608	0504-000203	TR-DIGITAL;KSR1008,NPN,300mW,47K-47K,TO-	
Q609	AC14-12001G	IC;KA78L05,T,-	
Q6101	0501-000398	TR-SMALL SIGNAL;KSC945,NPN,250mW,TO-92,T	
Q6102	0501-000398	TR-SMALL SIGNAL;KSC945,NPN,250mW,TO-92,T	
Q6106	0501-000398	TR-SMALL SIGNAL;KSC945,NPN,250mW,TO-92,T	
Q6108	0501-000303	TR-SMALL SIGNAL;KSA733-Y,PNP,250mW,TO-92	
R601	2001-000832	R-CARBON;510ohm,5%,1/8W,AA,TP,1.8x3.2mm	
R602	2001-000679	R-CARBON;36KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
R604	2007-001472	R-CHIP,MELF;68KOHM,5%,1/8W,DB,BK,2012	
R605	2007-001589	R-CHIP,MELF;1Kohm,5%,1/8W,DB,BK,2012	
R606	2007-000658	R-CHIP;27ohm,5%,1/10W,DA,TP,2012	

Loc.No	Part No	Desc and Spec	Remark
R607	2007-001587	R-CHIP,MELF;1Kohm,5%,1/8W,DB,TP,2012	
R608	2007-001637	R-CHIP,MELF;1.2Kohm,5%,1/8W,DB,BK,2012	
R610	2001-000947	R-CARBON;7.5KOHM,5%,1/8W,AA,TP,1.8X3.2M	
R6100	2001-000613	R-CARBON ;3.9K OHM,5%,1/8,AA,T	
R6101	2007-001629	R-CHIP,MELF;1.8Kohm,5%,1/8W,DB,BK,2012	
R6102	2007-001497	R-CHIP,MELF;5.6KOHM,5%,1/8W,DB,BK,2012	
R6103	2001-000290	R-CARBON ;10K OHM,5%,1/8W,AA,T	
R6104	2007-001507	R-CHIP,MELF;470KOHM,5%,1/8W,DB,BK,2012	
R6105	2001-000429	R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R6106	2007-001586	R-CHIP,MELF;1Mohm,5%,1/8W,DB,BK,2012	
R6107	2001-000429	R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R6109	2001-000241	R-CARBON;1.5Kohm,5%,1/8W,AA,TP,1.8x3.2m	
R6110	2007-001503	R-CHIP,MELF;47KOHM,5%,1/8W,DB,BK,2012	
R6111	2007-001497	R-CHIP,MELF;5.6KOHM,5%,1/8W,DB,BK,2012	
R6112	2001-000281	R-CARBON;100ohm,5%,1/8W,AA,TP,1.8x3.2mm	
R6113	2001-000660	R-CARBON;33Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R6115	2007-001589	R-CHIP,MELF;1Kohm,5%,1/8W,DB,BK,2012	
R6116	2001-001031	R-CARBON;91KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
R6117	2001-000850	R-CARBON;560Kohm,5%,1/8W,AA,TP,1.8x3.2m	
R6119	2001-000864	R-CARBON;56Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R612	2001-000539	R-CARBON;24Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R6120	2007-001586	R-CHIP,MELF;1Mohm,5%,1/8W,DB,BK,2012	
R6121	2001-000429	R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R6122	2007-001623	R-CHIP,MELF;10Kohm,5%,1/8W,DB,BK,2012	
R6123	2007-001503	R-CHIP,MELF;47KOHM,5%,1/8W,DB,BK,2012	
R6124	2001-000633	R-CARBON;30Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R6125	2001-000633	R-CARBON;30Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R6128	2001-000534	R-CARBON;240ohm,5%,1/8W,AA,TP,1.8x3.2mm	
R6129	2001-000281	R-CARBON;100ohm,5%,1/8W,AA,TP,1.8x3.2mm	
R6130	2001-000515	R-CARBON ;220OHM,5%,1/8W,AA,TP	
R6131	2001-000281	R-CARBON;100ohm,5%,1/8W,AA,TP,1.8x3.2mm	
R6134	2007-001486	R-CHIP,MELF;56KOHM,5%,1/8W,DB,BK,2012	
R614	2001-000508	R-CARBON ;220K OHM,5%,1/8W,AA,	
R615	2001-000508	R-CARBON ;220K OHM,5%,1/8W,AA,	
R616	2001-000832	R-CARBON;510ohm,5%,1/8W,AA,TP,1.8x3.2mm	
R617	2007-001623	R-CHIP,MELF;10Kohm,5%,1/8W,DB,BK,2012	
R618	2007-001623	R-CHIP,MELF;10Kohm,5%,1/8W,DB,BK,2012	
R619	2007-001557	R-CHIP,MELF;270ohm,5%,1/8W,DB,BK,2012	
R620	2007-001495	R-CHIP,MELF;510OHM,5%,1/8W,DB,BK,2012	
R621	2001-000864	R-CARBON;56Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R624	2001-000273	R-CARBON;100Kohm,5%,1/8W,AA,TP,1.8x3.2m	
R625	2001-000290	R-CARBON ;10K OHM,5%,1/8W,AA,T	
R626	2007-001589	R-CHIP,MELF;1Kohm,5%,1/8W,DB,BK,2012	
R627	2001-000290	R-CARBON ;10K OHM,5%,1/8W,AA,T	
R628	2001-000508	R-CARBON ;220K OHM,5%,1/8W,AA,	
R629	2001-000508	R-CARBON ;220K OHM,5%,1/8W,AA,	
R630	2001-000347	R-CARBON;13Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R631	2007-001591	R-CHIP,MELF;18Kohm,5%,1/8W,DB,BK,2012	
R632	2001-000429	R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R633	2001-000802	R-CARBON;5.6KOHM,5%,1/8W,AA,TP,1.8X3.2M	
R634	2001-000331	R-CARBON;12Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R635	2007-001589	R-CHIP,MELF;1Kohm,5%,1/8W,DB,BK,2012	
R636	2001-000281	R-CARBON;100ohm,5%,1/8W,AA,TP,1.8x3.2mm	
R637	2001-000429	R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R639	2001-000429	R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R640	2001-000429	R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R641	2001-000429	R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R642	2001-000290	R-CARBON ;10K OHM,5%,1/8W,AA,T	
R643	2001-000290	R-CARBON ;10K OHM,5%,1/8W,AA,T	
R644	2001-000429	R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R645	2001-000429	R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R646	2001-000347	R-CARBON;13Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R647	2001-000347	R-CARBON;13Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R648	2007-001589	R-CHIP,MELF;1Kohm,5%,1/8W,DB,BK,2012	
R649	2001-000429	R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R651	2001-000786	R-CARBON ;47KOHM,5%,1/8,AA,TP,	
R652	2001-000429	R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R653	2001-000864	R-CARBON;56Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R654	2001-000864	R-CARBON;56Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R655	2001-000429	R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R656	2001-000429	R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R657	2001-000429	R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R658	2001-000429	R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R659	2001-000449	R-CARBON;2.2Kohm,5%,1/8W,AA,TP,1.8x3.2m	
R660	2001-000281	R-CARBON;100ohm,5%,1/8W,AA,TP,1.8x3.2mm	
R661	2001-000429	R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R662	2001-000429	R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R663	2001-000429	R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R664	2001-000429	R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R665	2001-000362	R-CARBON;150ohm,5%,1/8W,AA,TP,1.8x3.2mm	
R666	2001-000429	R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R667	2001-000429	R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R668	2001-000362	R-CARBON;150ohm,5%,1/8W,AA,TP,1.8x3.2mm	
R669	2001-000290	R-CARBON ;10K OHM,5%,1/8W,AA,T	
R670	2001-000012	R-CARBON;680Kohm,5%,1/8W,AA,TP,1.8x3.2m	
R671	2001-000429	R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R672	2001-000429	R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R673	2001-000429	R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R674	2001-000429	R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R675	2001-000429	R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R676	2001-000429	R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R677	2001-000429	R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R679	2007-001589	R-CHIP,MELF;1Kohm,5%,1/8W,DB,BK,2012	
R681	2001-000429	R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R682	2001-000429	R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R683	2001-000429	R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R684	2001-000429	R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R686	2001-000429	R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R687	2007-001586	R-CHIP,MELF;1Mohm,5%,1/8W,DB,BK,2012	
R688	2001-000429	R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R689	2001-000290	R-CARBON ;10K OHM,5%,1/8W,AA,T	
R690	2001-000429	R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R691	2001-000429	R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R692	2001-000429	R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R693	2001-000429	R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R694	2001-000290	R-CARBON ;10K OHM,5%,1/8W,AA,T	
R695	2001-000290	R-CARBON ;10K OHM,5%,1/8W,AA,T	
R696	2001-000539	R-CARBON;24Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R697	2003-000259	R-METAL OXIDE;3.9OHM,5%,2W,AE,TP,6X16MM	
RS601	3409-000176	SWITCH-DETECTOR;30Vdc,100mA,SPST,-,-	
S601	0603-000112	PHOTO-TR;NPN,35V,6V,50mA,75mW,-	
S602	0603-000112	PHOTO-TR;NPN,35V,6V,50mA,75mW,-	
SW601	AC34-22001E	SWITCH-PROGRAM;MXS00281MLB0,-,-,-,-,-,	
XT601	2801-003293	CRYSTAL-UNIT;10MHZ,50PPM,28-AAA,16PF,50O	
XT602	2801-003318	CRYSTAL-UNIT;32.768KHz,20ppm,28-AAP,12.5	
XT6102	2801-003311	CRYSTAL-UNIT;17.734475MHz,50ppm,28-AAA,1	
J501	2203-001557	C-CERAMIC,CHIP;100NF,+80-20%,25V,Y5V,TP,	
J602	2007-001589	R-CHIP,MELF;1Kohm,5%,1/8W,DB,BK,2012	
W132	2001-000449	R-CARBON;2.2Kohm,5%,1/8W,AA,TP,1.8x3.2m	
W133	2001-000449	R-CARBON;2.2Kohm,5%,1/8W,AA,TP,1.8x3.2m	

Loc.No	Part No	Desc and Spec	Remark
W134	2001-000449	R-CARBON;2.2Kohm,5%,1/8W,AA,TP,1.8x3.2m	
W135	2001-000449	R-CARBON;2.2Kohm,5%,1/8W,AA,TP,1.8x3.2m	
W158	2001-000449	R-CARBON;2.2Kohm,5%,1/8W,AA,TP,1.8x3.2	
AUDIO/VIDEO PARTS			
C305	2203-002188	C-CERAMIC,CHIP;10NF,+80-20%,16V,Y5V,TP,2	
C306	2203-002188	C-CERAMIC,CHIP;10NF,+80-20%,16V,Y5V,TP,2	
C307	2203-002188	C-CERAMIC,CHIP;10NF,+80-20%,16V,Y5V,TP,2	
C308	2203-002188	C-CERAMIC,CHIP;10NF,+80-20%,16V,Y5V,TP,2	
C309	2203-002188	C-CERAMIC,CHIP;10NF,+80-20%,16V,Y5V,TP,2	
C310	2203-002188	C-CERAMIC,CHIP;10NF,+80-20%,16V,Y5V,TP,2	
C311	2203-002188	C-CERAMIC,CHIP;10NF,+80-20%,16V,Y5V,TP,2	
C312	2203-002188	C-CERAMIC,CHIP;10NF,+80-20%,16V,Y5V,TP,2	
C313	2203-002188	C-CERAMIC,CHIP;10NF,+80-20%,16V,Y5V,TP,2	
C314	2401-001975	C-AL;47UF,20%,16V,GP,TP,5X11MM,5	
C315	2203-001557	C-CERAMIC,CHIP;100NF,+80-20%,25V,Y5V,TP,	
C316	2203-002188	C-CERAMIC,CHIP;10NF,+80-20%,16V,Y5V,TP,2	
C317	2401-001912	C-AL;1uF,20%,50V,GP,5x11mm,2mm,BK	
C318	2203-002188	C-CERAMIC,CHIP;10NF,+80-20%,16V,Y5V,TP,2	
C319	2202-000797	C-CERAMIC,MLC-AXIAL;10NF,30%,16V,Y5P,TP,	
C320	2203-002188	C-CERAMIC,CHIP;10NF,+80-20%,16V,Y5V,TP,2	
C321	2203-002188	C-CERAMIC,CHIP;10NF,+80-20%,16V,Y5V,TP,2	
C322	2203-002188	C-CERAMIC,CHIP;10NF,+80-20%,16V,Y5V,TP,2	
C324	2301-000282	C-FILM,PEF;47nF,5%,100V,7.3X7X3.2X5,5mm,	
C325	2203-002188	C-CERAMIC,CHIP;10NF,+80-20%,16V,Y5V,TP,2	
C326	2202-000797	C-CERAMIC,MLC-AXIAL;10NF,30%,16V,Y5P,TP,	
C327	2203-002188	C-CERAMIC,CHIP;10NF,+80-20%,16V,Y5V,TP,2	
C328	2203-001620	C-CERAMIC,CHIP MELF;27PF,5%,50V,SL,TP,20	
C329	2203-002188	C-CERAMIC,CHIP;10NF,+80-20%,16V,Y5V,TP,2	
C330	2202-000797	C-CERAMIC,MLC-AXIAL;10NF,30%,16V,Y5P,TP,	
C331	2401-000918	C-AL;22uF,20%,16V,GP,-,6.3x7,5	
C332	2203-001659	C-CERAMIC,CHIP MELF;47PF,5%,50V,SL,TP,20	
C333	2203-000840	C-CERAMIC,CHIP;390PF,5%,50V,NPO,TP,2012,	
C335	2203-001580	C-CERAMIC,CHIP MELF;15PF,5%,50V,SL,TP,20	
C336	2203-001606	C-CERAMIC,CHIP MELF;220PF,10%,50V,Y5P,TP	
C337	2203-001670	C-CERAMIC,CHIP MELF;56PF,5%,50V,SL,TP,20	
C339	2203-000239	C-CERAMIC,CHIP;100pF,5%,50V,NPO,TP,2012,	
C340	2401-001965	C-AL;470NF,20%,50V,-,BK,4X7MM,1.5MM	
C341	2401-001917	C-AL;1UF,20%,50V,-,TP,5X7MM,5	
C342	2202-000780	C-CERAMIC,MLC-AXIAL;100nF,+80-20%,50V,Y5	
C343	2401-001975	C-AL;47UF,20%,16V,GP,TP,5X11MM,5	
C344	2401-000419	C-AL;10UF,20%,16V,GP,-,4X7,5	
C345	2203-001557	C-CERAMIC,CHIP;100NF,+80-20%,25V,Y5V,TP,	
C346	2401-001975	C-AL;47UF,20%,16V,GP,TP,5X11MM,5	
C347	2401-000419	C-AL;10UF,20%,16V,GP,-,4X7,5	
C348	2401-001912	C-AL;1uF,20%,50V,GP,5x11mm,2mm,BK	
C349	2401-001912	C-AL;1uF,20%,50V,GP,5x11mm,2mm,BK	
C350	2202-000797	C-CERAMIC,MLC-AXIAL;10NF,30%,16V,Y5P,TP,	
C351	2203-001557	C-CERAMIC,CHIP;100NF,+80-20%,25V,Y5V,TP,	
C352	2401-001975	C-AL;47UF,20%,16V,GP,TP,5X11MM,5	
C353	2202-000797	C-CERAMIC,MLC-AXIAL;10NF,30%,16V,Y5P,TP,	
C355	2202-000797	C-CERAMIC,MLC-AXIAL;10NF,30%,16V,Y5P,TP,	
C356	2203-002188	C-CERAMIC,CHIP;10NF,+80-20%,16V,Y5V,TP,2	
C357	2203-001557	C-CERAMIC,CHIP;100NF,+80-20%,25V,Y5V,TP,	
C358	2401-001915	C-AL;1uF,20%,50V,GP,TP,3x5,1mm	
C359	2203-002188	C-CERAMIC,CHIP;10NF,+80-20%,16V,Y5V,TP,2	
C360	2202-000780	C-CERAMIC,MLC-AXIAL;100nF,+80-20%,50V,Y5	
C361	2401-001975	C-AL;47UF,20%,16V,GP,TP,5X11MM,5	
C362	2401-001912	C-AL;1uF,20%,50V,GP,5x11mm,2mm,BK	
C363	2203-001608	C-CERAMIC,CHIP;22nF,+80-20%,50V,Y5V,2012	

Loc.No	Part No	Desc and Spec	Remark
C364	2401-001912	C-AL;1uF,20%,50V,GP,5x11mm,2mm,BK	
C366	2202-000797	C-CERAMIC,MLC-AXIAL;10NF,30%,16V,Y5P,TP,	
C367	2203-001557	C-CERAMIC,CHIP;100NF,+80-20%,25V,Y5V,TP,	
C368	2203-000979	C-CERAMIC,CHIP;47nF,10%,50V,X7R,TP,2012,	
C369	2401-001912	C-AL;1uF,20%,50V,GP,5x11mm,2mm,BK	
C370	2301-000282	C-FILM,PEF;47nF,5%,100V,7.3X7X3.2X5,5mm,	
C371	2202-000797	C-CERAMIC,MLC-AXIAL;10NF,30%,16V,Y5P,TP,	
C373	2301-000439	C-FILM,PEF;3NF,5%,50V,TP,5.5X7X3MM,5MM	
C374	2202-000781	C-CERAMIC,MLC-AXIAL:100pF,10%,50V,Y5P,TP	
C380	2401-001905	C-AL;10UF,20%,16V,BP,BK,6X11MM,2.5M	
C3A01	2401-001893	C-AL;100uF,20%,16V,GP,TP,6.3x7mm,5	
C3A03	2401-001511	C-AL;47UF,20%,16V,GP,-,6X7,5	
C3A04	2301-000299	C-FILM,PEF;6.8nF,5%,100V,TP,5.8x12.5mm,5	
C3A05	2301-000445	C-FILM,PEF;4.7nF,5%,50V,5.5x7x3mm,5mm,TP	
C3A06	2301-000408	C-FILM,PEF;2.7nF,5%,50V,5.5x7x3mm,5mm,TP	
C3A07	2301-000402	C-FILM,PEF;1NF,5%,50V,TP,5X7X2.8MM,5MM	
C3A08	2401-001917	C-AL;1UF,20%,50V,-,TP,5X7MM,5	
C3A09	2401-003122	C-AL;4.7UF,20%,50V,LL,TP,4X7,1.5	
C3A10	2401-001904	C-AL;10UF,20%,16V,-,TP,4X7MM,5	
C3A11	2401-000918	C-AL;22uF,20%,16V,GP,-,6.3x7,5	
C3A12	2301-000383	C-FILM,PEF;10nF,5%,50V,6x7x3.2mm,5mm,TP	
C3A15	2401-001912	C-AL;1uF,20%,50V,GP,5x11mm,2mm,BK	
C3A16	2401-001912	C-AL;1uF,20%,50V,GP,5x11mm,2mm,BK	
C3A17	2202-000855	C-CERAMIC,MLC-AXIAL;6.8NF,30%,16V,Y5R,TP	
C3A18	2202-000855	C-CERAMIC,MLC-AXIAL;6.8NF,30%,16V,Y5R,TP	
C3A19	2202-000856	C-CERAMIC,MLC-AXIAL;8.2NF,30%,16V,Y5R,TP	
C3A20	2301-000217	C-FILM,PEF;220nF,5%,50V,8.0X9.5X4.5X5,5m	
C3A21	2401-000918	C-AL;22uF,20%,16V,GP,-,6.3x7,5	
C3A22	2301-000217	C-FILM,PEF;220nF,5%,50V,8.0X9.5X4.5X5,5m	
C3A23	2401-001169	C-AL;33UF,20%,16V,GP,-,6.3X7,2.5MM	
C3A24	2301-000217	C-FILM,PEF;220nF,5%,50V,8.0X9.5X4.5X5,5m	
C3A25	2202-000780	C-CERAMIC,MLC-AXIAL;100nF,+80-20%,50V,Y5	
C3A26	2401-001975	C-AL;47UF,20%,16V,GP,TP,5X11MM,5	
C3A27	2401-002197	C-AL;4.7UF,20%,25V,GP,TP,4X7,5MM	
C3A28	2203-001557	C-CERAMIC,CHIP;100NF,+80-20%,25V,Y5V,TP,	
C3A29	2301-000383	C-FILM,PEF;10nF,5%,50V,6x7x3.2mm,5mm,TP	
CN301	3708-000395	CONNECTOR-FPC/FC/PIC;8P,1.25MM,STRAIGHT,	
CN3A01	3708-001053	CONNECTOR-FPC/FC/PIC;7P,1.25MM,STRAIGHT,	
CN3A02	3711-000371	CONNECTOR-HEADER;-,2P,1R,2MM,STRAIGHT,-	
D301	0401-000101	DIODE-SWITCHING;1N4148,100V,200mA,500mW,	
FL3A01	AC27-80100A	COIL-OSC;126QN-K5272YHC=K,-,AM	
IC301	1204-001057	IC-SIGNAL PROCESSOR;SS11511M,QFP,80P,-,P	
IC302	AC14-12013F	IC-LINEAR;LA7416,DIP,BULK	4HEAD
IC302	AC14-12014L	IC-LINEAR;LA7411,DIP,PRE-AMP	2HEAD
IC303	1209-001023	IC-DELAY LINE;SS23377M,SOP,14P,225MIL,PL	
L301	AC27-92001B	COIL-PEAKING AXIAL;BAL04ST101K,-,-,-,-	
L303	2701-000206	INDUCTOR-AXIAL;56UH,5%,2.4X3.4MM	
L304	2701-000206	INDUCTOR-AXIAL;56UH,5%,2.4X3.4MM	
L306	2702-000176	INDUCTOR-RADIAL;56uH,5%,6x6.4mm	
L308	AC27-92001B	COIL-PEAKING AXIAL;BAL04ST101K,-,-,-,-	
L3A01	2301-000282	C-FILM,PEF;47nF,5%,100V,7.3X7X3.2X5,5mm,	
L3A02	AC27-92001B	COIL-PEAKING AXIAL;BAL04ST101K,-,-,-,-	
L3A03	2702-000120	INDUCTOR-RADIAL;15mH,5%,6.2x7.4mm	
L3A04	AC27-92001B	COIL-PEAKING AXIAL;BAL04ST101K,-,-,-,-	
Q302	0501-000303	TR-SMALL SIGNAL;KSA733-Y,PNP,250mW,TO-92	
Q303	0501-000303	TR-SMALL SIGNAL;KSA733-Y,PNP,250mW,TO-92	
Q304	0501-000398	TR-SMALL SIGNAL;KSC945,NPN,250mW,TO-92,T	
Q308	0504-000203	TR-DIGITAL;KSR1008,NPN,300mW,47K-47K,TO-	
Q309	0501-000398	TR-SMALL SIGNAL;KSC945,NPN,250mW,TO-92,T	
Q310	0501-000303	TR-SMALL SIGNAL;KSA733-Y,PNP,250mW,TO-92	

Loc.No	Part No	Desc and Spec	Remark
Q312	0501-000398	TR-SMALL SIGNAL;KSC945,NPN,250mW,TO-92,T	
Q3A01	0501-000231	TR-SMALL SIGNAL;2SD1468SQ,NPN,300MW,TO-9	
Q3A02	0501-000231	TR-SMALL SIGNAL;2SD1468SQ,NPN,300MW,TO-9	
Q3A03	0501-000010	TR-SMALL SIGNAL;KSC1008,NPN,80V,60V,700m	
Q3A04	0501-000303	TR-SMALL SIGNAL;KSA733-Y,PNP,250mW,TO-92	
Q3A05	0501-000398	TR-SMALL SIGNAL;KSC945,NPN,250mW,TO-92,T	
R301	2001-000302	R-CARBON;10ohm,5%,1/8W,AA,TP,1.8x3.2mm	
R302	2001-000302	R-CARBON;10ohm,5%,1/8W,AA,TP,1.8x3.2mm	
R303	2007-001568	R-CHIP,MELF;22Kohm,5%,1/8W,DB,BK,2012	
R304	2001-000522	R-CARBON;22Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R305	2007-001629	R-CHIP,MELF;1.8Kohm,5%,1/8W,DB,BK,2012	
R306	2001-000864	R-CARBON;56Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R307	2007-001627	R-CHIP,MELF;100Kohm,5%,1/8W,DB,BK,2012	
R309	2007-001553	R-CHIP,MELF;2Kohm,5%,1/8W,DB,BK,2012	
R310	2007-001546	R-CHIP,MELF;3.9KOHM,5%,1/8W,DB,BK,2012	
R311	2007-001454	R-CHIP,MELF;820OHM,5%,1/8W,DB,BK,2012	
R312	2007-001553	R-CHIP,MELF;2Kohm,5%,1/8W,DB,BK,2012	
R313	2007-001513	R-CHIP,MELF;4.7KOHM,5%,1/8W,DB,BK,2012	
R314	2007-001557	R-CHIP,MELF;270ohm,5%,1/8W,DB,BK,2012	
R315	2007-001546	R-CHIP,MELF;3.9KOHM,5%,1/8W,DB,BK,2012	
R316	2007-001458	R-CHIP,MELF;8.2KOHM,5%,1/8W,DB,BK,2012	
R317	2007-001534	R-CHIP,MELF;33KOHM,5%,1/8W,DB,BK,2012	
R318	2007-001534	R-CHIP,MELF;33KOHM,5%,1/8W,DB,BK,2012	
R319	2007-001521	R-CHIP,MELF;390OHM,5%,1/8W,DB,BK,2012	
R320	2007-001637	R-CHIP,MELF;1.2Kohm,5%,1/8W,DB,BK,2012	
R321	2007-001521	R-CHIP,MELF;390OHM,5%,1/8W,DB,BK,2012	
R322	2007-001633	R-CHIP,MELF;1.5Kohm,5%,1/8W,DB,BK,2012	
R323	2007-001513	R-CHIP,MELF;4.7KOHM,5%,1/8W,DB,BK,2012	
R324	2007-001633	R-CHIP,MELF;1.5Kohm,5%,1/8W,DB,BK,2012	
R325	2007-001536	R-CHIP,MELF;330OHM,5%,1/8W,DB,BK,2012	
R328	2007-001637	R-CHIP,MELF;1.2Kohm,5%,1/8W,DB,BK,2012	
R329	2007-001584	R-CHIP,MELF;2.2Kohm,5%,1/8W,DB,BK,2012	
R331	2007-001584	R-CHIP,MELF;2.2Kohm,5%,1/8W,DB,BK,2012	
R332	2007-001589	R-CHIP,MELF;1Kohm,5%,1/8W,DB,BK,2012	
R333	2007-001458	R-CHIP,MELF;8.2KOHM,5%,1/8W,DB,BK,2012	
R335	2007-001616	R-CHIP,MELF;120Kohm,5%,1/8W,DB,BK,2012	
R337	2007-001578	R-CHIP,MELF;2.7Kohm,5%,1/8W,DB,BK,2012	
R338	2007-001513	R-CHIP,MELF;4.7KOHM,5%,1/8W,DB,BK,2012	
R339	2001-000429	R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R340	2001-000449	R-CARBON;2.2Kohm,5%,1/8W,AA,TP,1.8x3.2m	
R341	2001-000472	R-CARBON;2.7Kohm,5%,1/8W,AA,TP,1.8x3.2m	
R350	2007-001629	R-CHIP,MELF;1.8Kohm,5%,1/8W,DB,BK,2012	
R351	2007-001616	R-CHIP,MELF;120Kohm,5%,1/8W,DB,BK,2012	
R399	2007-001536	R-CHIP,MELF;330OHM,5%,1/8W,DB,BK,2012	
R3A02	2001-000405	R-CARBON ;180 OHM,5%,1/8W,AA,T	
R3A03	2001-000780	R-CARBON ;470 OHM,5%,1/8W,AA,T	
R3A04	2007-001629	R-CHIP,MELF;1.8Kohm,5%,1/8W,DB,BK,2012	
R3A05	2007-001584	R-CHIP,MELF;2.2Kohm,5%,1/8W,DB,BK,2012	
R3A06	2007-001584	R-CHIP,MELF;2.2Kohm,5%,1/8W,DB,BK,2012	
R3A07	2001-000458	R-CARBON;2.2OHM,5%,1/8W,AA,TP,1.8X3.2MM	
R3A08	2001-000290	R-CARBON ;10K OHM,5%,1/8W,AA,T	
R3A09	2001-000522	R-CARBON;22Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R3A10	2007-001633	R-CHIP,MELF;1.5Kohm,5%,1/8W,DB,BK,2012	
R3A11	2007-001534	R-CHIP,MELF;33KOHM,5%,1/8W,DB,BK,2012	
R3A12	2001-000362	R-CARBON;150ohm,5%,1/8W,AA,TP,1.8x3.2mm	
R3A13	2001-000645	R-CARBON;330Kohm,5%,1/8W,AA,TP,1.8x3.2m	
R3A14	2001-000734	R-CARBON;4.7Kohm,5%,1/8W,AA,TP,1.8x3.2m	
R3A15	2007-001612	R-CHIP,MELF;12Kohm,5%,1/8W,DB,BK,2012	
R3A16	2007-001641	R-CHIP,MELF;0OHM,5%,1/8W,DB,BK,2012	
R3A17	2007-001497	R-CHIP,MELF;5.6KOHM,5%,1/8W,DB,BK,2012	
R3A18	2001-000718	R-CARBON;4.3KOHM,5%,1/8W,AA,TP,1.8X3.2M	
R3A19	2001-000221	R-CARBON;1.2Kohm,5%,1/8W,AA,TP,1.8x3.2m	
R3A20	2001-000786	R-CARBON ;47KOHM,5%,1/8,AA,TP,	
R3A21	2007-001503	R-CHIP,MELF;47KOHM,5%,1/8W,DB,BK,2012	
R3A22	2007-001503	R-CHIP,MELF;47KOHM,5%,1/8W,DB,BK,2012	
R3A23	2007-001484	R-CHIP,MELF;6.2KOHM,5%,1/8W,DB,BK,2012	
R3A24	2001-000454	R-CARBON;2.2Mohm,5%,1/8W,AA,TP,1.8x3.2m	
R3A25	2007-001482	R-CHIP,MELF;6.8KOHM,5%,1/8W,DB,BK,2012	
R3A26	2007-001468	R-CHIP,MELF;7.5KOHM,5%,1/8W,DB,BK,2012	
R3A27	2007-001513	R-CHIP,MELF;4.7KOHM,5%,1/8W,DB,BK,2012	
R3A28	2007-001623	R-CHIP,MELF;10Kohm,5%,1/8W,DB,BK,2012	
R3A29	2007-001580	R-CHIP,MELF;2.4Kohm,5%,1/8W,DB,BK,2012	
R3A30	2001-000613	R-CARBON ;3.9K OHM,5%,1/8,AA,T	
R3A31	2001-000734	R-CARBON;4.7Kohm,5%,1/8W,AA,TP,1.8x3.2m	
XT301	2801-001397	CRYSTAL-UNIT;4.433619MHZ,20PPM,28-AAA,S,	
IF PARTS			
C402	2401-001364	C-AL;470UF,20%,16V,GP,TP,10X12MM,5M	
C403	2401-001905	C-AL;10UF,20%,16V,BP,BK,6X11MM,2.5M	
C410	2401-001085	C-AL;330NF,20%,50V,GP,-,5X9,2MM	
D410	0402-000132	DIODE-RECTIFIER;1N4004,400V,1A,DO-41	
L401	AC27-92001B	COIL-PEAKING AXIAL;BAL04ST101K,-,-,-,-	
L415	3301-000297	CORE-FERRITE BEAD;AA,3.6x1.2x5.7mm,1400,	
Q401	0501-000398	TR-SMALL SIGNAL;KSC945,NPN,250mW,TO-92,T	
R401	2001-000522	R-CARBON;22Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R402	2001-000522	R-CARBON;22Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R403	2001-000734	R-CARBON;4.7Kohm,5%,1/8W,AA,TP,1.8x3.2m	
R405	2001-000281	R-CARBON;100ohm,5%,1/8W,AA,TP,1.8x3.2mm	
R406	2001-000281	R-CARBON;100ohm,5%,1/8W,AA,TP,1.8x3.2mm	
R407	2001-000281	R-CARBON;100ohm,5%,1/8W,AA,TP,1.8x3.2mm	
R418	2001-000786	R-CARBON ;47KOHM,5%,1/8,AA,TP,	
U401	AC40-30071E	TM-BLOCK;TMBG1-107A,SECAM-L/BG,126	FRANCE AREA
	AC40-30071D	TM-BLOCK;TMLB1-1-1A,PAL-I,48	U.K. AREA
	AC40-30071C	TM-BLOCK;TMBG1-105A,PAL-B/G,126	WEST EUROPE
	AC40-30071K	TM-BLOCK;TMLG1-308A,PAL-D/K,126	EAST EUROPE
I/O PARTS			
C801	2401-002197	C-AL;4.7UF,20%,25V,GP,TP,4X7,5MM	
C802	2401-001904	C-AL;10UF,20%,16V,-,TP,4X7MM,5	
C803	2401-001904	C-AL;10UF,20%,16V,-,TP,4X7MM,5	
C804	2401-001904	C-AL;10UF,20%,16V,-,TP,4X7MM,5	
C805	2401-001904	C-AL;10UF,20%,16V,-,TP,4X7MM,5	
C806	2401-001975	C-AL;47UF,20%,16V,GP,TP,5X11MM,5	
C807	2203-001557	C-CERAMIC,CHIP;100NF,+80-20%,25V,Y5V,TP,	
C808	2401-002197	C-AL;4.7UF,20%,25V,GP,TP,4X7,5MM	
C809	2401-002197	C-AL;4.7UF,20%,25V,GP,TP,4X7,5MM	
C810	2401-002197	C-AL;4.7UF,20%,25V,GP,TP,4X7,5MM	
C811	2401-002197	C-AL;4.7UF,20%,25V,GP,TP,4X7,5MM	
C812	2401-002197	C-AL;4.7UF,20%,25V,GP,TP,4X7,5MM	
C813	2401-002197	C-AL;4.7UF,20%,25V,GP,TP,4X7,5MM	
C818	2401-001975	C-AL;47UF,20%,16V,GP,TP,5X11MM,5	
C819	2202-000780	C-CERAMIC,MLC-AXIAL;100nF,+80-20%,50V,Y5	
C820	2401-001511	C-AL;47UF,20%,16V,GP,-,6X7,5	
C823	2401-002197	C-AL;4.7UF,20%,25V,GP,TP,4X7,5MM	
C824	2203-001696	C-CERAMIC,CHIP MELF;82PF,10%,50V,Y5P,TP,	
C825	2203-001696	C-CERAMIC,CHIP MELF;82PF,10%,50V,Y5P,TP,	
C826	2203-002188	C-CERAMIC,CHIP;10NF,+80-20%,16V,Y5V,TP,2	
C827	2203-002188	C-CERAMIC,CHIP;10NF,+80-20%,16V,Y5V,TP,2	
C829	2401-000918	C-AL;22uF,20%,16V,GP,-,6.3x7,5	
C831	2203-001615	C-CERAMIC,CHIP MELF;270PF,10%,50V,Y5P,TP	
C834	2203-001591	C-CERAMIC,CHIP MELF;1NF,20%,25V,Y5S,TP,2	

Loc.No	Part No	Desc and Spec	Remark
C835	2203-001659	C-CERAMIC,CHIP MELF;47PF,5%,50V,SL,TP,20	
C836	2203-001659	C-CERAMIC,CHIP MELF;47PF,5%,50V,SL,TP,20	
C838	2401-000918	C-AL;22uF,20%,16V,GP,-,6.3x7,5	
C840	2203-001615	C-CERAMIC,CHIP MELF;270PF,10%,50V,Y5P,TP	
C842	2203-001591	C-CERAMIC,CHIP MELF;1NF,20%,25V,Y5S,TP,2	
C843	2203-001591	C-CERAMIC,CHIP MELF;1NF,20%,25V,Y5S,TP,2	
C844	2203-001615	C-CERAMIC,CHIP MELF;270PF,10%,50V,Y5P,TP	
C847	2203-001696	C-CERAMIC,CHIP MELF;82PF,10%,50V,Y5P,TP,	
C848	2203-001696	C-CERAMIC,CHIP MELF;82PF,10%,50V,Y5P,TP,	
C849	2401-001904	C-AL;10UF,20%,16V,-,TP,4X7MM,5	
C850	2203-001557	C-CERAMIC,CHIP;100NF,+80-20%,25V,Y5V,TP,	
D801	0401-000101	DIODE-SWITCHING;1N4148,100V,200mA,500mW,	
D802	0401-000101	DIODE-SWITCHING;1N4148,100V,200mA,500mW,	
D803	0401-000101	DIODE-SWITCHING;1N4148,100V,200mA,500mW,	
D804	0401-000101	DIODE-SWITCHING;1N4148,100V,200mA,500mW,	
D805	0401-000101	DIODE-SWITCHING;1N4148,100V,200mA,500mW,	
D806	0401-000101	DIODE-SWITCHING;1N4148,100V,200mA,500mW,	
D808	0401-000101	DIODE-SWITCHING;1N4148,100V,200mA,500mW,	
D810	0401-000101	DIODE-SWITCHING;1N4148,100V,200mA,500mW,	
D811	0401-000101	DIODE-SWITCHING;1N4148,100V,200mA,500mW,	
D812	0401-000101	DIODE-SWITCHING;1N4148,100V,200mA,500mW,	
D814	0401-000101	DIODE-SWITCHING;1N4148,100V,200mA,500mW,	
D815	0401-000101	DIODE-SWITCHING;1N4148,100V,200mA,500mW,	
D816	0401-000101	DIODE-SWITCHING;1N4148,100V,200mA,500mW,	
D817	0401-000101	DIODE-SWITCHING;1N4148,100V,200mA,500mW,	
D818	0401-000101	DIODE-SWITCHING;1N4148,100V,200mA,500mW,	
D819	0401-000101	DIODE-SWITCHING;1N4148,100V,200mA,500mW,	
IC801	1001-001026	IC-RF/VI/AUDIO S/W;KA8119BDTF,CMOS,S0P,3	
JC801	3722-001093	JACK-RCA;42P,3.81MM,SN,BLU/BLK,#20-28	2 SCART
	3710-000482	CONNECTOR-SOCKET;210,-,-,ANGLE,SN	1 SCART
L803	2701-000181	INDUCTOR-AXIAL;33UH,5%,2.4X3.4MM	
L804	2701-000181	INDUCTOR-AXIAL;33UH,5%,2.4X3.4MM	
L805	2701-000181	INDUCTOR-AXIAL;33UH,5%,2.4X3.4MM	
L806	2701-000181	INDUCTOR-AXIAL;33UH,5%,2.4X3.4MM	
L807	AC27-92001M	INDUCTOR;70UH-M RT BFS3565R2F,-,-,-,-	
L808	AC27-92001M	INDUCTOR;70UH-M RT BFS3565R2F,-,-,-,-	
L809	2701-000181	INDUCTOR-AXIAL;33UH,5%,2.4X3.4MM	
L810	2701-000181	INDUCTOR-AXIAL;33UH,5%,2.4X3.4MM	
L811	2701-000181	INDUCTOR-AXIAL;33UH,5%,2.4X3.4MM	
L812	2701-000181	INDUCTOR-AXIAL;33UH,5%,2.4X3.4MM	
L815	AC27-92001B	COIL-PEAKING AXIAL;BAL04ST101K,-,-,-,-	
L816	AC27-92001B	COIL-PEAKING AXIAL;BAL04ST101K,-,-,-,-	
Q803	0501-000398	TR-SMALL SIGNAL;KSC945,NPN,250mW,TO-92,T	
Q804	0501-000398	TR-SMALL SIGNAL;KSC945,NPN,250mW,TO-92,T	
Q808	0504-000203	TR-DIGITAL;KSR1008,NPN,300mW,47K-47K,TO-	
Q809	0504-000203	TR-DIGITAL;KSR1008,NPN,300mW,47K-47K,TO-	
Q810	0504-000142	TR-DIGITAL;KSR2001,PNP,300mW,4.7K-4.7K,T	
Q811	0501-000398	TR-SMALL SIGNAL;KSC945,NPN,250mW,TO-92,T	
Q812	0504-000203	TR-DIGITAL;KSR1008,NPN,300mW,47K-47K,TO-	
Q813	0504-000142	TR-DIGITAL;KSR2001,PNP,300mW,4.7K-4.7K,T	
Q814	0504-000142	TR-DIGITAL;KSR2001,PNP,300mW,4.7K-4.7K,T	
Q815	0504-000203	TR-DIGITAL;KSR1008,NPN,300mW,47K-47K,TO-	
R805	2001-000857	R-CARBON;560ohm,5%,1/8W,AA,TP,1.8x3.2mm	
R811	2007-001505	R-CHIP,MELF;470OHM,5%,1/8W,DB,BK,2012	
R812	2007-001460	R-CHIP,MELF;75OHM,5%,1/8W,DB,BK,2012	
R813	2007-001460	R-CHIP,MELF;75OHM,5%,1/8W,DB,BK,2012	
R816	2007-001557	R-CHIP,MELF;270ohm,5%,1/8W,DB,BK,2012	
R817	2007-001557	R-CHIP,MELF;270ohm,5%,1/8W,DB,BK,2012	
R821	2007-001572	R-CHIP,MELF;220Kohm,5%,1/8W,DB,BK,2012	
R822	2007-001557	R-CHIP,MELF;270ohm,5%,1/8W,DB,BK,2012	
R823	2007-001557	R-CHIP,MELF;270ohm,5%,1/8W,DB,BK,2012	
R826	2007-001557	R-CHIP,MELF;270ohm,5%,1/8W,DB,BK,2012	
R827	2007-001557	R-CHIP,MELF;270ohm,5%,1/8W,DB,BK,2012	
R828	2007-001589	R-CHIP,MELF;1Kohm,5%,1/8W,DB,BK,2012	
R829	2007-001589	R-CHIP,MELF;1Kohm,5%,1/8W,DB,BK,2012	
R830	2001-000290	R-CARBON ;10K OHM,5%,1/8W,AA,T	
R831	2007-001572	R-CHIP,MELF;220Kohm,5%,1/8W,DB,BK,2012	
R833	2007-001460	R-CHIP,MELF;75OHM,5%,1/8W,DB,BK,2012	
R835	2004-001290	R-METAL;820ohm,5%,1/4W,AA,TP,2.4x6.4mm	
R836	2007-001505	R-CHIP,MELF;470OHM,5%,1/8W,DB,BK,2012	
R837	2007-001460	R-CHIP,MELF;75OHM,5%,1/8W,DB,BK,2012	
R852	2004-001096	R-METAL;560ohm,5%,1/4W,AA,TP,2.4X6.4mm	
SW802	3404-000135	SWITCH-TACT;12V,50mA,160+-50gf,7.4x7.1mm	
SECAM PARTS (SV-415F/410F/215F/210F ONLY)			
C3S01	2203-001606	C-CERAMIC,CHIP MELF;220PF,10%,50V,Y5P,TP	
C3S02	2401-001919	C-AL;2.2UF,20%,50V,-,TP,4X7MM,5	
C3S03	2203-000260	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,2012,	
C3S04	2203-000260	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,2012,	
C3S05	2203-001557	C-CERAMIC,CHIP;100NF,+80-20%,25V,Y5V,TP,	
C3S06	2203-001577	C-CERAMIC,CHIP MELF;150PF,10%,50V,Y5E,TP	
C3S07	2401-001511	C-AL;47UF,20%,16V,GP,-,6X7,5	
C3S08	2203-001557	C-CERAMIC,CHIP;100NF,+80-20%,25V,Y5V,TP,	
C3S09	2203-002188	C-CERAMIC,CHIP;10NF,+80-20%,16V,Y5V,TP,2	
C3S10	2202-000797	C-CERAMIC,MLC-AXIAL;10NF,30%,16V,Y5P,TP,	
C3S11	2202-000797	C-CERAMIC,MLC-AXIAL;10NF,30%,16V,Y5P,TP,	
C3S12	2203-002188	C-CERAMIC,CHIP;10NF,+80-20%,16V,Y5V,TP,2	
C3S13	2401-001965	C-AL;470NF,20%,50V,-,BK,4X7MM,1.5MM	
C3S14	2202-000796	C-CERAMIC,MLC-AXIAL;UP050 B102KB INF,10%	
C3S15	2401-001904	C-AL;10UF,20%,16V,-,TP,4X7MM,5	
C3S16	2202-000780	C-CERAMIC,MLC-AXIAL;100nF,+80-20%,50V,Y5	
C3S17	2203-002188	C-CERAMIC,CHIP;10NF,+80-20%,16V,Y5V,TP,2	
C3S19	2203-001615	C-CERAMIC,CHIP MELF;270PF,10%,50V,Y5P,TP	
C3S20	2203-001608	C-CERAMIC,CHIP;22nF,+80-20%,50V,Y5V,2012	
C3S21	2401-001917	C-AL;1UF,20%,50V,-,TP,5X7MM,5	
C3S22	2202-000797	C-CERAMIC,MLC-AXIAL;10NF,30%,16V,Y5P,TP,	
C3S23	2201-000854	C-CERAMIC,DISC;51PF,5%,50V,CH,TP,6.5X3,5	
C3S25	2203-000295	C-CERAMIC,CHIP;10pF,5%,50V,NPO,TP,2012,-	
C3S26	2203-001696	C-CERAMIC,CHIP MELF;82PF,10%,50V,Y5P,TP,	
C3S27	2203-001135	C-CERAMIC,CHIP;680PF,5%,50V,SL,TP,2012,-	
D3S01	0401-000101	DIODE-SWITCHING;1N4148,100V,200mA,500mW,	
IC3S01	1204-001058	IC-SIGNAL PROCESSOR;LA7337,DIP,28P,400MI	
L3S02	2702-000179	INDUCTOR-RADIAL;6.8uH,5%,6x6.4mm	
L3S03	2701-000165	INDUCTOR-AXIAL;27uH,5%,2.4x3.4mm	
L3S04	2701-000195	INDUCTOR-AXIAL;47UH,5%,2.4X3.4MM	
L3S05	2701-000160	INDUCTOR-AXIAL;22UH,5%,2.4X3.4MM	
Q3S01	0501-000303	TR-SMALL SIGNAL;KSA733-Y,PNP,250mW,TO-92	
Q3S02	0501-000303	TR-SMALL SIGNAL;KSA733-Y,PNP,250mW,TO-92	
Q3S03	0504-000142	TR-DIGITAL;KSR2001,PNP,300mW,4.7K-4.7K,T	
Q3S04	0501-000303	TR-SMALL SIGNAL;KSA733-Y,PNP,250mW,TO-92	
Q3S05	0501-000398	TR-SMALL SIGNAL;KSC945,NPN,250mW,TO-92,T	
R3S01	2007-001561	R-CHIP,MELF;24Kohm,5%,1/8W,DB,BK,2012	
R3S02	2001-000977	R-CARBON;8.2Kohm,5%,1/8W,AA,TP,1.8x3.2m	
R3S03	2001-001015	R-CARBON;9.1Kohm,5%,1/8W,AA,TP,1.8x3.2m	
R3S04	2007-001555	R-CHIP,MELF;27Kohm,5%,1/8W,DB,BK,2012	
R3S05	2007-001503	R-CHIP,MELF;47KOHM,5%,1/8W,DB,BK,2012	
R3S06	2001-000429	R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R3S07	2007-001482	R-CHIP,MELF;6.8KOHM,5%,1/8W,DB,BK,2012	
R3S08	2007-001546	R-CHIP,MELF;3.9KOHM,5%,1/8W,DB,BK,2012	

Loc.No	Part No	Desc & Spec	Remark
R3S09	2001-000660	R-CARBON;33Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R3S10	2007-001534	R-CHIP,MELF;33KOHM,5%,1/8W,DB,BK,2012	
R3S11	2001-000837	R-CARBON;51Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R3S12	2007-001513	R-CHIP,MELF;4.7KOHM,5%,1/8W,DB,BK,2012	
R3S13	2007-001540	R-CHIP,MELF;30KOHM,5%,1/8W,DB,BK,2012	
R3S14	2001-000890	R-CARBON;6.8Kohm,5%,1/8W,AA,TP,1.8x3.2m	
R3S15	2001-000947	R-CARBON;7.5KOHM,5%,1/8W,AA,TP,1.8X3.2M	
R3S16	2001-000472	R-CARBON;2.7Kohm,5%,1/8W,AA,TP,1.8x3.2m	
R3S17	2007-001568	R-CHIP,MELF;22Kohm,5%,1/8W,DB,BK,2012	
R3S18	2001-000429	R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R3S19	2007-001589	R-CHIP,MELF;1Kohm,5%,1/8W,DB,BK,2012	
R3S20	2001-000281	R-CARBON;100ohm,5%,1/8W,AA,TP,1.8x3.2mm	
R3S21	2001-000674	R-CARBON;360ohm,5%,1/8W,AA,TP,1.8x3.2mm	
R3S22	2007-001589	R-CHIP,MELF;1Kohm,5%,1/8W,DB,BK,2012	
R3S23	2001-000539	R-CARBON;24Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R3S24	2007-001616	R-CHIP,MELF;120Kohm,5%,1/8W,DB,BK,2012	
R3S25	2007-001629	R-CHIP,MELF;1.8Kohm,5%,1/8W,DB,BK,2012	
VPS/PDC PARTS			
C6P01	2203-001557	C-CERAMIC,CHIP;100NF,+80-20%,25V,Y5V,TP,	
C6P02	2202-000791	C-CERAMIC,MLC-AXIAL;150PF,10%,50V,Y5P,TP	
C6P03	2401-001074	C-AL;330NF,20%,50V,GP,TP,4X5,2.5MM	
C6P05	2203-001608	C-CERAMIC,CHIP;22nF,+80-20%,50V,Y5V,2012	
C6P06	2203-000802	C-CERAMIC,CHIP;33nF,10%,50V,X7R,TP,2012,	
C6P07	2202-000780	C-CERAMIC,MLC-AXIAL;100nF,+80-20%,50V,Y5	
IC6P01	1204-001287	IC-DECODER;SDA5650,DIP,14P,-,PLASTIC,6V,	
R6P05	2007-001627	R-CHIP,MELF;100Kohm,5%,1/8W,DB,BK,2012	
R6P06	2007-001586	R-CHIP,MELF;1Mohm,5%,1/8W,DB,BK,2012	
R6P07	2007-000225	R-CHIP;1.2Mohm,5%,1/10W,DA,TP,2012	
R6P08	2007-001482	R-CHIP,MELF;6.8KOHM,5%,1/8W,DB,BK,2012	
R6P09	2007-000225	R-CHIP;1.2Mohm,5%,1/10W,DA,TP,2012	
R6P10	2007-001482	R-CHIP,MELF;6.8KOHM,5%,1/8W,DB,BK,2012	
R6P11	2001-000449	R-CARBON;2.2Kohm,5%,1/8W,AA,TP,1.8x3.2m	
R6P12	2007-001623	R-CHIP,MELF;10Kohm,5%,1/8W,DB,BK,2012	
	-	**ASSY-SUB (SV-415F/410F/215F/210F ONLY)**	**S.N.A**
C4L01	2202-000797	C-CERAMIC,MLC-AXIAL;10NF,30%,16V,Y5P,TP,	
C4L02	2202-000797	C-CERAMIC,MLC-AXIAL;10NF,30%,16V,Y5P,TP,	
C4L03	2202-000797	C-CERAMIC,MLC-AXIAL;10NF,30%,16V,Y5P,TP,	
C4L04	2201-000815	C-CERAMIC,DISC;20PF,5%,50V,SL,TP,5X3,5	
C4L05	2202-000797	C-CERAMIC,MLC-AXIAL;10NF,30%,16V,Y5P,TP,	
C4L06	2202-000797	C-CERAMIC,MLC-AXIAL;10NF,30%,16V,Y5P,TP,	
C4L07	2202-000797	C-CERAMIC,MLC-AXIAL;10NF,30%,16V,Y5P,TP,	
C4L08	2202-000797	C-CERAMIC,MLC-AXIAL;10NF,30%,16V,Y5P,TP,	
C4L09	2202-000780	C-CERAMIC,MLC-AXIAL;100nF,+80-20%,50V,Y5	
C4L10	2202-000263	C-CERAMIC,MLC-AXIAL;470pF,10%,50V,Y5P,TP	
C4L11	2202-000263	C-CERAMIC,MLC-AXIAL;470pF,10%,50V,Y5P,TP	
C4L12	2202-000780	C-CERAMIC,MLC-AXIAL;100nF,+80-20%,50V,Y5	
C4L13	2401-001919	C-AL;2.2UF,20%,50V,-,TP,4X7MM,5	
C4L14	2201-000805	C-CERAMIC,DISC;18PF,5%,50V,CH,TP,5X3,5	
C4L16	2401-001169	C-AL;33UF,20%,16V,GP,-,6.3X7,2.5MM	
C4L17	2202-000780	C-CERAMIC,MLC-AXIAL;100nF,+80-20%,50V,Y5	
C4L18	2401-001919	C-AL;2.2UF,20%,50V,-,TP,4X7MM,5	
C4L19	2401-001511	C-AL;47UF,20%,16V,GP,-,6X7,5	
C4L20	2202-000780	C-CERAMIC,MLC-AXIAL;100nF,+80-20%,50V,Y5	
C4L21	2401-001919	C-AL;2.2UF,20%,50V,-,TP,4X7MM,5	
C4M01	2301-000395	C-FILM,PEF;18NF,5%,50V,TP,6.5X12.5X3.5MM	
C4M02	2301-000161	C-FILM,PEF;12nF,5%,50V,6.5X5.5X3.0X5,5mm	
C4M05	2401-000918	C-AL;22uF,20%,16V,GP,-,6.3x7,5	
C4N27	2202-000797	C-CERAMIC,MLC-AXIAL;10NF,30%,16V,Y5P,TP,	
C4N28	2202-000797	C-CERAMIC,MLC-AXIAL;10NF,30%,16V,Y5P,TP,	
C4N29	2202-000797	C-CERAMIC,MLC-AXIAL;10NF,30%,16V,Y5P,TP,	
C4N30	2202-000797	C-CERAMIC,MLC-AXIAL;10NF,30%,16V,Y5P,TP,	
C4N31	2202-000797	C-CERAMIC,MLC-AXIAL;10NF,30%,16V,Y5P,TP,	
CN4N01	3711-003177	CONNECTOR-HEADER;NOWALL,15P,1R,2.5mm,ANG	
D4L01	0401-000156	DIODE-SWITCHING;1SS110,35V,100mA,DO-34,T	
D4L02	0401-000156	DIODE-SWITCHING;1SS110,35V,100mA,DO-34,T	
D4L03	0401-000156	DIODE-SWITCHING;1SS110,35V,100mA,DO-34,T	
D4L04	0401-000156	DIODE-SWITCHING;1SS110,35V,100mA,DO-34,T	
FL4L01	B1245-0060	FILTER-SAW;K9453M SECAM SIF	
FL4L02	2903-000182	FILTER-CERAMIC;BP,5.5MHz,70KHz,-,-,TP,-	
FL4L03	2903-000199	FILTER-CERAMIC;TR,6.5MHz,70KHz,-,-,TP,-	
FL4M01	2903-000185	FILTER-CERAMIC;BP,5.5MHz,+-75KHz,6dB,-,T	
FL4M02	AC29-92002G	FILTER-CERAMIC;SP 6.5M SFE6.5MB TAPG	
FL4N01	2904-001016	FILTER-SAW AV;38.9MHz,SIP5K,TP,15.3dB,PA	
IC4L01	1209-000218	IC;TDA98145 SOP STICK DEMOD	
L4L01	AC27-12001U	COIL-PEAKING;EL0606RA 1.3UH-K	
L4L02	2701-000160	INDUCTOR-AXIAL;22UH,5%,2.4X3.4MM	
L4L03	2701-000218	INDUCTOR-AXIAL;8.2UH,5%,2.4X3.4MM	
L4L04	2701-000145	INDUCTOR-AXIAL;1UH,5%,2.4X3.4MM	
L4N06	2702-000170	INDUCTOR-RADIAL;560nH,20%,6x6.4mm	
Q4L01	0501-000436	TR-SMALL SIGNAL;KTC3197,NPN,625mW,TO-92,	
Q4L02	0504-000203	TR-DIGITAL;KSR1008,NPN,300mW,47K-47K,TO-	
Q4L03	0504-000203	TR-DIGITAL;KSR1008,NPN,300mW,47K-47K,TO-	
Q4L04	0504-000203	TR-DIGITAL;KSR1008,NPN,300mW,47K-47K,TO-	
Q4L05	0501-000303	TR-SMALL SIGNAL;KSA733-Y,PNP,250mW,TO-92	
Q4M01	0504-000203	TR-DIGITAL;KSR1008,NPN,300mW,47K-47K,TO-	
Q4M02	0504-000203	TR-DIGITAL;KSR1008,NPN,300mW,47K-47K,TO-	
Q4N01	0501-000436	TR-SMALL SIGNAL;KTC3197,NPN,625mW,TO-92,	
R4L01	2001-000793	R-CARBON;47ohm,5%,1/8W,AA,TP,1.8x3.2mm	
R4L02	2001-000802	R-CARBON;5.6KOHM,5%,1/8W,AA,TP,1.8X3.2M	
R4L03	2001-000832	R-CARBON;510ohm,5%,1/8W,AA,TP,1.8x3.2mm	
R4L04	2001-000241	R-CARBON;1.5Kohm,5%,1/8W,AA,TP,1.8x3.2m	
R4L05	2001-000666	R-CARBON;33ohm,5%,1/8W,AA,TP,1.8x3.2mm	
R4L06	2001-000221	R-CARBON;1.2Kohm,5%,1/8W,AA,TP,1.8x3.2m	
R4L07	2001-000605	R-CARBON;3.6Kohm,5%,1/8W,AA,TP,1.8x3.2m	
R4L08	2001-000554	R-CARBON;270OHM,5%,1/8W,AA,TP,1.8X3.2MM	
R4L09	2001-000241	R-CARBON;1.5Kohm,5%,1/8W,AA,TP,1.8x3.2m	
R4L10	2001-000290	R-CARBON ;10K OHM,5%,1/8W,AA,T	
R4L11	2001-000006	R-CARBON;2.4Kohm,5%,1/8W,AA,TP,1.8x3.2m	
R4L12	2001-000522	R-CARBON;22Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R4L13	2001-000780	R-CARBON ;470 OHM,5%,1/8W,AA,T	
R4L14	2001-000449	R-CARBON;2.2Kohm,5%,1/8W,AA,TP,1.8x3.2m	
R4L15	2001-000362	R-CARBON;150ohm,5%,1/8W,AA,TP,1.8x3.2mm	
R4L16	2001-000405	R-CARBON ;180 OHM,5%,1/8W,AA,T	
R4L17	2001-000977	R-CARBON;8.2Kohm,5%,1/8W,AA,TP,1.8x3.2m	
R4L18	2001-000008	R-CARBON;15Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R4L19	2001-000857	R-CARBON;560ohm,5%,1/8W,AA,TP,1.8x3.2mm	
R4L20	2001-000522	R-CARBON;22Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R4L21	2001-000522	R-CARBON;22Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R4L22	2001-000674	R-CARBON;360ohm,5%,1/8W,AA,TP,1.8x3.2mm	
R4L23	2001-000449	R-CARBON;2.2Kohm,5%,1/8W,AA,TP,1.8x3.2m	
R4L24	2001-000005	R-CARBON;390ohm,5%,1/8W,AA,TP,1.8x3.2mm	
R4M01	2001-000577	R-CARBON ;2KOHM,5%,1/8W,AA,TP,	
R4M02	2001-000890	R-CARBON;6.8Kohm,5%,1/8W,AA,TP,1.8x3.2m	
R4M05	2001-000281	R-CARBON;100ohm,5%,1/8W,AA,TP,1.8x3.2mm	
R4M07	2001-000857	R-CARBON;560ohm,5%,1/8W,AA,TP,1.8x3.2mm	
R4M08	2001-000857	R-CARBON;560ohm,5%,1/8W,AA,TP,1.8x3.2mm	
R4N18	2001-000924	R-CARBON;680ohm,5%,1/8W,AA,TP,1.8x3.2mm	
R4N19	2001-000281	R-CARBON;100ohm,5%,1/8W,AA,TP,1.8x3.2mm	

Loc.No	Part No	Desc & Spec	Remark
R4N20	2001-000241	R-CARBON;1.5Kohm,5%,1/8W,AA,TP,1.8x3.2m	
R4N22	2001-000802	R-CARBON;5.6KOHM,5%,1/8W,AA,TP,1.8X3.2M	
R4N23	2001-000554	R-CARBON;270OHM,5%,1/8W,AA,TP,1.8X3.2MM	
TL4L01	AC26-12001A	TRANS-DET;9MM,0UH,BLK,8PF,77.9MHZ,M7T1,S	
VR4L01	61247-102-223	VR-SEMI;EVN-DCY A03 BE4 TAPG 22KB	
VR4L02	61247-102-223	VR-SEMI;EVN-DCY A03 BE4 TAPG 22KB	
	-	**ASSY-F/TIMER**	**S.N.A**
C701	2401-001893	C-AL;100uF,20%,16V,GP,TP,6.3x7mm,5	
C702	2202-000797	C-CERAMIC,MLC-AXIAL;10NF,30%,16V,Y5P,TP,	
C703	2202-000796	C-CERAMIC,MLC-AXIAL;UP050 B102KB INF,10%	
C704	2401-001904	C-AL;10UF,20%,16V,-,TP,4X7MM,5	
C706	2202-000796	C-CERAMIC,MLC-AXIAL;UP050 B102KB INF,10%	
C707	2401-001915	C-AL;1uF,20%,50V,GP,TP,3x5,1mm	
CN701	3708-001251	CONNECTOR-FPC/FC/PIC;22P,1mm,STRAIGHT-F,	
CN702	3708-001164	CONNECTOR-FPC/FC/PIC;5P,1.25MM,ANGLE,SN	
CN703	3708-001163	CONNECTOR-FPC/FC/PIC;5P,1.25mm,STRAIGHT,	
D702	0401-000101	DIODE-SWITCHING;1N4148,100V,200mA,500mW,	
D703	0401-000101	DIODE-SWITCHING;1N4148,100V,200mA,500mW,	
D705	0401-000101	DIODE-SWITCHING;1N4148,100V,200mA,500mW,	
D706	0401-000101	DIODE-SWITCHING;1N4148,100V,200mA,500mW,	
D707	0401-000101	DIODE-SWITCHING;1N4148,100V,200mA,500mW,	
D710	0401-000101	DIODE-SWITCHING;1N4148,100V,200mA,500mW,	
D711	0401-000101	DIODE-SWITCHING;1N4148,100V,200mA,500mW,	
D712	0401-000101	DIODE-SWITCHING;1N4148,100V,200mA,500mW,	
D714	0401-000101	DIODE-SWITCHING;1N4148,100V,200mA,500mW,	
D718	0401-000101	DIODE-SWITCHING;1N4148,100V,200mA,500mW,	
D725	0401-000101	DIODE-SWITCHING;1N4148,100V,200mA,500mW,	
D740	0401-000101	DIODE-SWITCHING;1N4148,100V,200mA,500mW,	
D741	0401-000101	DIODE-SWITCHING;1N4148,100V,200mA,500mW,	
D742	0401-000101	DIODE-SWITCHING;1N4148,100V,200mA,500mW,	
D743	0401-000101	DIODE-SWITCHING;1N4148,100V,200mA,500mW,	
D744	0401-000101	DIODE-SWITCHING;1N4148,100V,200mA,500mW,	
DT701	0703-001042	DISPLAY-LED;GRN,6digit,8seg,46x21x17mm	
JK701	3722-000433	JACK-PIN;1P/1C,PI3.3,SN,YEL,-	
JK702	AC37-22001T	JACK-PIN;DSPS-8805-03W,PI4,3P,GLD,-	
L701	AC27-92001B	COIL-PEAKING AXIAL;BAL04ST101K,-,-,-,-	
L703	2701-000181	INDUCTOR-AXIAL;33UH,5%,2.4X3.4MM	
Q701	0501-000398	TR-SMALL SIGNAL;KSC945,NPN,250mW,TO-92,T	
Q702	0501-000398	TR-SMALL SIGNAL;KSC945,NPN,250mW,TO-92,T	
Q703	0501-000398	TR-SMALL SIGNAL;KSC945,NPN,250mW,TO-92,T	
Q704	0501-000398	TR-SMALL SIGNAL;KSC945,NPN,250mW,TO-92,T	
Q705	0501-000398	TR-SMALL SIGNAL;KSC945,NPN,250mW,TO-92,T	
Q706	0501-000398	TR-SMALL SIGNAL;KSC945,NPN,250mW,TO-92,T	
Q707	0501-000398	TR-SMALL SIGNAL;KSC945,NPN,250mW,TO-92,T	
Q708	0501-000398	TR-SMALL SIGNAL;KSC945,NPN,250mW,TO-92,T	
Q709	0501-000290	TR-SMALL SIGNAL;KSA643-Y,PNP,500MW,TO-92	
Q710	0501-000290	TR-SMALL SIGNAL;KSA643-Y,PNP,500MW,TO-92	
Q711	0501-000290	TR-SMALL SIGNAL;KSA643-Y,PNP,500MW,TO-92	
Q712	0501-000290	TR-SMALL SIGNAL;KSA643-Y,PNP,500MW,TO-92	
Q713	0501-000290	TR-SMALL SIGNAL;KSA643-Y,PNP,500MW,TO-92	
Q714	0501-000290	TR-SMALL SIGNAL;KSA643-Y,PNP,500MW,TO-92	
R701	2001-000290	R-CARBON ;10K OHM,5%,1/8W,AA,T	
R702	2001-000290	R-CARBON ;10K OHM,5%,1/8W,AA,T	
R703	2001-000290	R-CARBON ;10K OHM,5%,1/8W,AA,T	
R704	2001-000290	R-CARBON ;10K OHM,5%,1/8W,AA,T	
R705	2001-000290	R-CARBON ;10K OHM,5%,1/8W,AA,T	
R706	2001-000290	R-CARBON ;10K OHM,5%,1/8W,AA,T	
R707	2001-000290	R-CARBON ;10K OHM,5%,1/8W,AA,T	
R708	2001-000290	R-CARBON ;10K OHM,5%,1/8W,AA,T	

Loc.No	Part No	Desc & Spec	Remark
R709	2001-000969	R-CARBON;75ohm,5%,1/8W,AA,TP,1.8x3.2mm	
R710	2001-000969	R-CARBON;75ohm,5%,1/8W,AA,TP,1.8x3.2mm	
R711	2001-000969	R-CARBON;75ohm,5%,1/8W,AA,TP,1.8x3.2mm	
R712	2001-000969	R-CARBON;75ohm,5%,1/8W,AA,TP,1.8x3.2mm	
R713	2001-000969	R-CARBON;75ohm,5%,1/8W,AA,TP,1.8x3.2mm	
R714	2001-000969	R-CARBON;75ohm,5%,1/8W,AA,TP,1.8x3.2mm	
R715	2001-000969	R-CARBON;75ohm,5%,1/8W,AA,TP,1.8x3.2mm	
R716	2001-000969	R-CARBON;75ohm,5%,1/8W,AA,TP,1.8x3.2mm	
R723	2001-000429	R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R724	2001-000429	R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R725	2001-000429	R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R726	2001-000429	R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R729	2001-000290	R-CARBON ;10K OHM,5%,1/8W,AA,T	
R730	2001-000969	R-CARBON;75ohm,5%,1/8W,AA,TP,1.8x3.2mm	
R731	2001-000429	R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R732	2001-000429	R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R733	2001-000660	R-CARBON;33Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R734	2001-000660	R-CARBON;33Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R735	2001-000660	R-CARBON;33Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R737	2001-000660	R-CARBON;33Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R739	2001-000660	R-CARBON;33Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
RM701	AC59-62001K	MODULE-REMOCON;TSOP1238RF1,38KHz,-,-,-,-	
SW701	3404-000165	SWITCH-TACT;12V,50mA,160gf+-50gf,6x6mm,S	
SW702	3404-000165	SWITCH-TACT;12V,50mA,160gf+-50gf,6x6mm,S	
SW703	3404-000165	SWITCH-TACT;12V,50mA,160gf+-50gf,6x6mm,S	
SW704	3404-000165	SWITCH-TACT;12V,50mA,160gf+-50gf,6x6mm,S	
SW705	3404-000165	SWITCH-TACT;12V,50mA,160gf+-50gf,6x6mm,S	
SW706	3404-000165	SWITCH-TACT;12V,50mA,160gf+-50gf,6x6mm,S	
SW707	3404-000165	SWITCH-TACT;12V,50mA,160gf+-50gf,6x6mm,S	
SW709	3404-000165	SWITCH-TACT;12V,50mA,160gf+-50gf,6x6mm,S	
	-	**ASSY-SHUTTLE**	**S.N.A**
CN707	3708-001163	CONNECTOR-FPC/FC/PIC;5P,1.25mm,STRAIGHT,	
SH701	2101-000101	VR-ROTARY;100Kohm,20%,1/10W,SIDE	
	Refer to table (page 7-9)	**REMOCON-ASSY**	**MULTI TYPE**
	AC64-50953A	DOOR-BATTERY REMOCON;-,ABS94,HB,T2.0,-,D	
CT1	2401-000778	C-AL;220uF,20%,10V,GP,-,6.3x11,2.5m	
CT2	2203-000199	C-CERAMIC,CHIP;100nF,+80-20%,50V,Z5U,TP,	
ICT01	AC09-10453K	IC-MCU;Z86L7608,A160,28P,QFP,A120U,8B	
LDT1	0601-000519	LED-INFRARED;SI5312-H NTR 940NM/1.4V	
QT1	0501-000592	TR-SMALL SIGNAL;2SD1781K-QR,NPN,200MW,SO	
RT1	2007-000483	R-CHIP;1ohm,5%,1/10W,DA,TP,2012	
RT2	2007-000593	R-CHIP;22ohm,5%,1/10W,DA,TP,2012	
RT3	2007-000308	R-CHIP;10ohm,5%,1/10W,DA,TP,2012	
XT1	B1283-0036	RESONATOR-CERAMIC;8MHZ EFOEC8004T4 3/CN	
	Refer to table (page 7-9)	**REMOCON-ASSY**	**NORMAL TYPE**
	AC64-50953A	DOOR-BATTERY REMOCON;-,ABS94,HB,T2.0,-,D	
CT1	2401-001954	C-AL;4.7UF,20%,50V,GP,BK,5X11MM,5	
CT2	2203-000239	C-CERAMIC,CHIP;100pF,5%,50V,NPO,TP,2012,	
CT3	2203-000239	C-CERAMIC,CHIP;100pF,5%,50V,NPO,TP,2012,	
ICT1	AC09-10457B	IC-MCU;KS51840-18,VCR(PAL),24P,24SOP,	
LDT1	0601-000519	LED-INFRARED;SI5312-H NTR 940NM/1.4V	
QT1	0501-000534	TR-SMALL SIGNAL;2SC2412K,NPN,200MW,SOT-2	
RT1	2007-000483	R-CHIP;1ohm,5%,1/10W,DA,TP,2012	
XT01	2802-000148	CERAMIC RESONATOR;CSB455EBL/KBR455BKTL	

COUNTRY	MODELS	PARTS NO.	TYPE
FINLAND	SV-415X	AC59-10343M	MULTI
SWEDEN	SV-410X	AC59-10329N	NORMAL
NORWAY	SV-215X	AC59-10329V	NORMAL
	SV-210X	AC59-10329N	NORMAL
FRANCE	SV-415F	AC59-10343K	MULTI
	SV-410F	AC59-10329W	NORMAL
	SV-215F	AC59-10329X	NORMAL
	SV-210F	AC59-10329W	NORMAL
NETHERLANDS	SV-415X	AC59-10343M	MULTI
	SV-410X	AC59-10329N	NORMAL
	SV-215X	AC59-10329V	NORMAL
	SV-210X	AC59-10329N	NORMAL
SWITZERLAND	SV-413X	AC59-10329V	NORMAL
	SV-213X	AC59-10329K	NORMAL
	SV-210F	AC59-10329W	NORMAL
AUSTRIA	SV-413X	AC59-10329V	NORMAL
	SV-213X	AC59-10329K	NORMAL
GERMANY	SV-413X	AC59-10329V	NORMAL
	SV-213X	AC59-10329K	NORMAL
GREECE	SV-410X	AC59-10329N	NORMAL
	SV-215X	AC59-10329V	NORMAL
	SV-210X	AC59-10329N	NORMAL
ITALY	SV-413X	AC59-10329V	NORMAL
	SV-411X	AC59-10329P	NORMAL
	SV-215X	AC59-10329P	NORMAL
	SV-211X	AC59-10329P	NORMAL
	SV-472X	AC59-10329P	NORMAL
	SV-471X	AC59-10329P	NORMAL
	SV-272X	AC59-10329P	NORMAL
	SV-271X	AC59-10329P	NORMAL
DENMARK	SV-415X	AC59-10343M	MULTI
	SV-410X	AC59-10329N	NORMAL
	SV-215X	AC59-10329V	NORMAL
	SV-210X	AC59-10329N	NORMAL
PORTUGAL	SV-411X	AC59-10329P	NORMAL
	SV-215X	AC59-10329V	NORMAL
	SV-211X	AC59-10329P	NORMAL
SPAIN	SV-411X	AC59-10329P	NORMAL
	SV-215X	AC59-10329V	NORMAL
	SV-211X	AC59-10329P	NORMAL
U.K	SV-415B	AC59-10343Q	MULTI
	SV-215B	AC59-10329U	NORMAL
	SV-213B	AC59-10329U	NORMAL
BULGARIA	SV-415G	AC59-10343L	MULTI
	SV-210G	AC59-10329N	NORMAL
CZECH.	SV-415G	AC59-10343L	MULTI
	SV-210G	AC59-10329N	NORMAL
HUNGARY	SV-415G	AC59-10343L	MULTI
	SV-410G	AC59-10329N	NORMAL
	SV-215G	AC59-10329K	NORMAL
	SV-210G	AC59-10329N	NORMAL
POLAND	SV-415G	AC59-10343L	MULTI
	SV-410G	AC59-10329N	NORMAL
	SV-215G	AC59-10329K	NORMAL
	SV-210G	AC59-10329N	NORMAL
ROMANIA	SV-415G	AC59-10343L	MULTI
	SV-215G	AC59-10329N	NORMAL
CROATIA	SV-413X	AC59-10329V	NORMAL
	SV-213X	AC59-10329K	NORMAL
	SV-210X	AC59-10329N	NORMAL
SLOVENIA	SV-413X	AC59-10329V	NORMAL
	SV-213X	AC59-10329K	NORMAL
	SV-210X	AC59-10329N	NORMAL

MEMO

8. Block Diagrams

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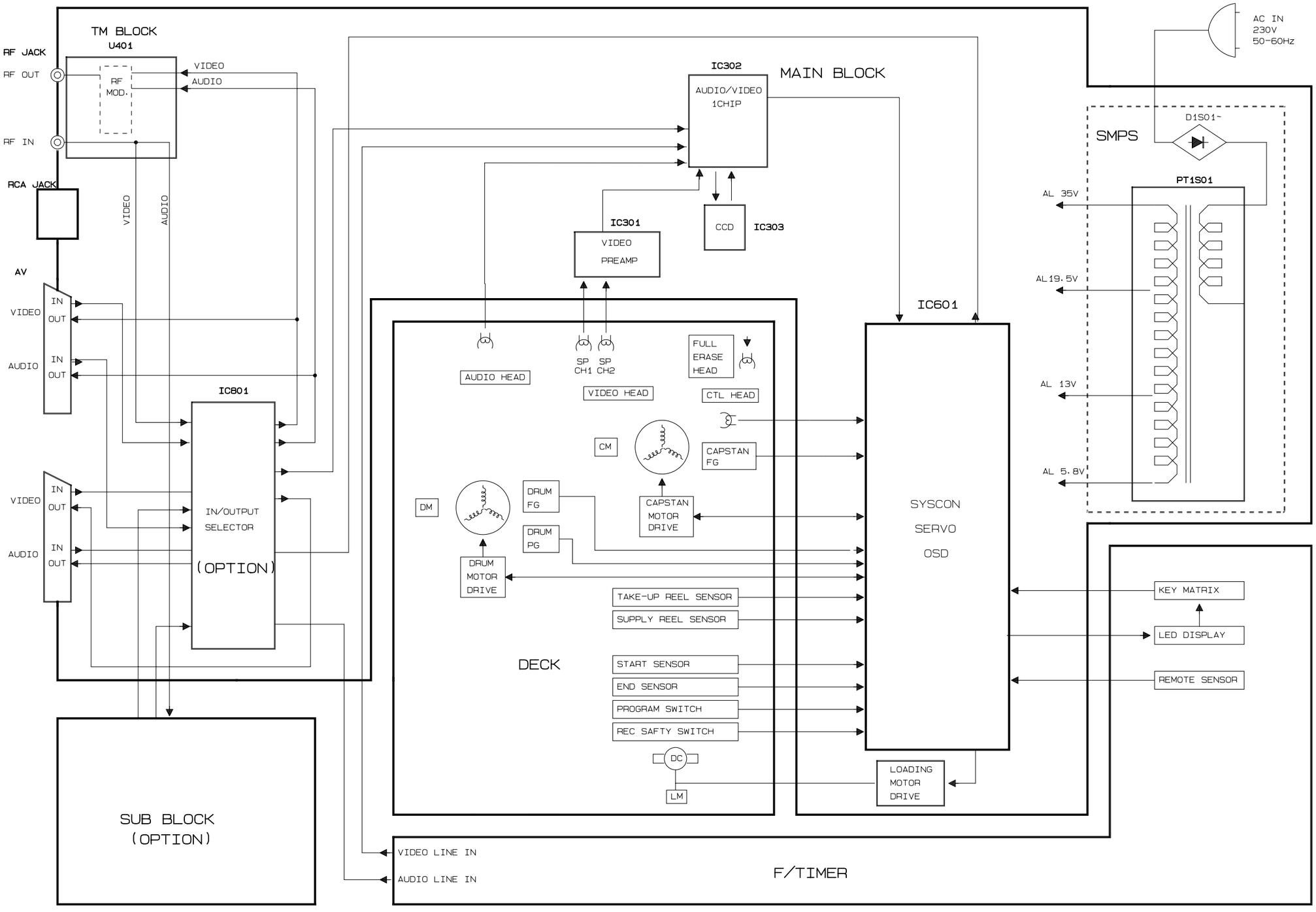
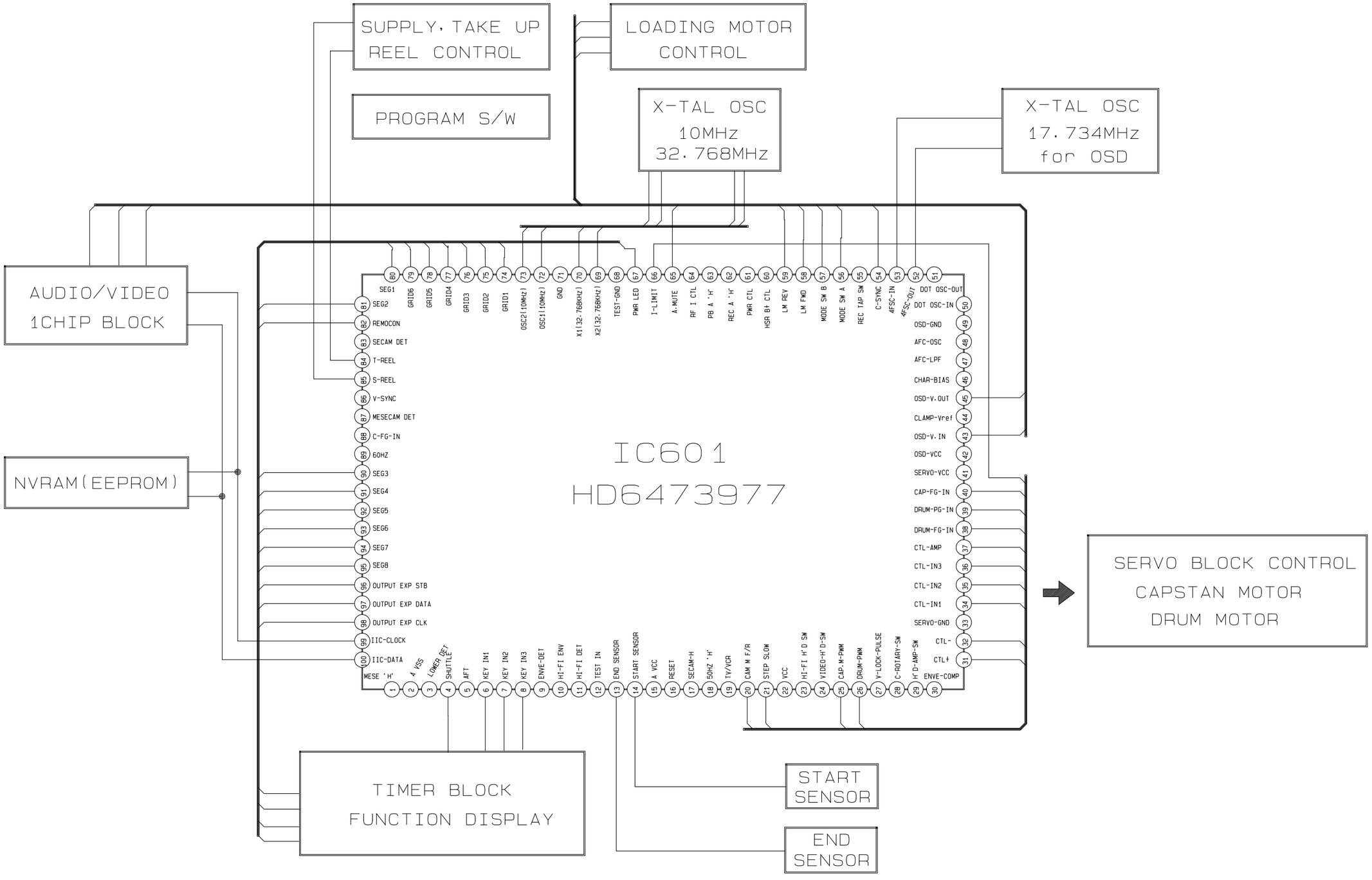
8-2	System Control	8-3
8-3	Video	8-4

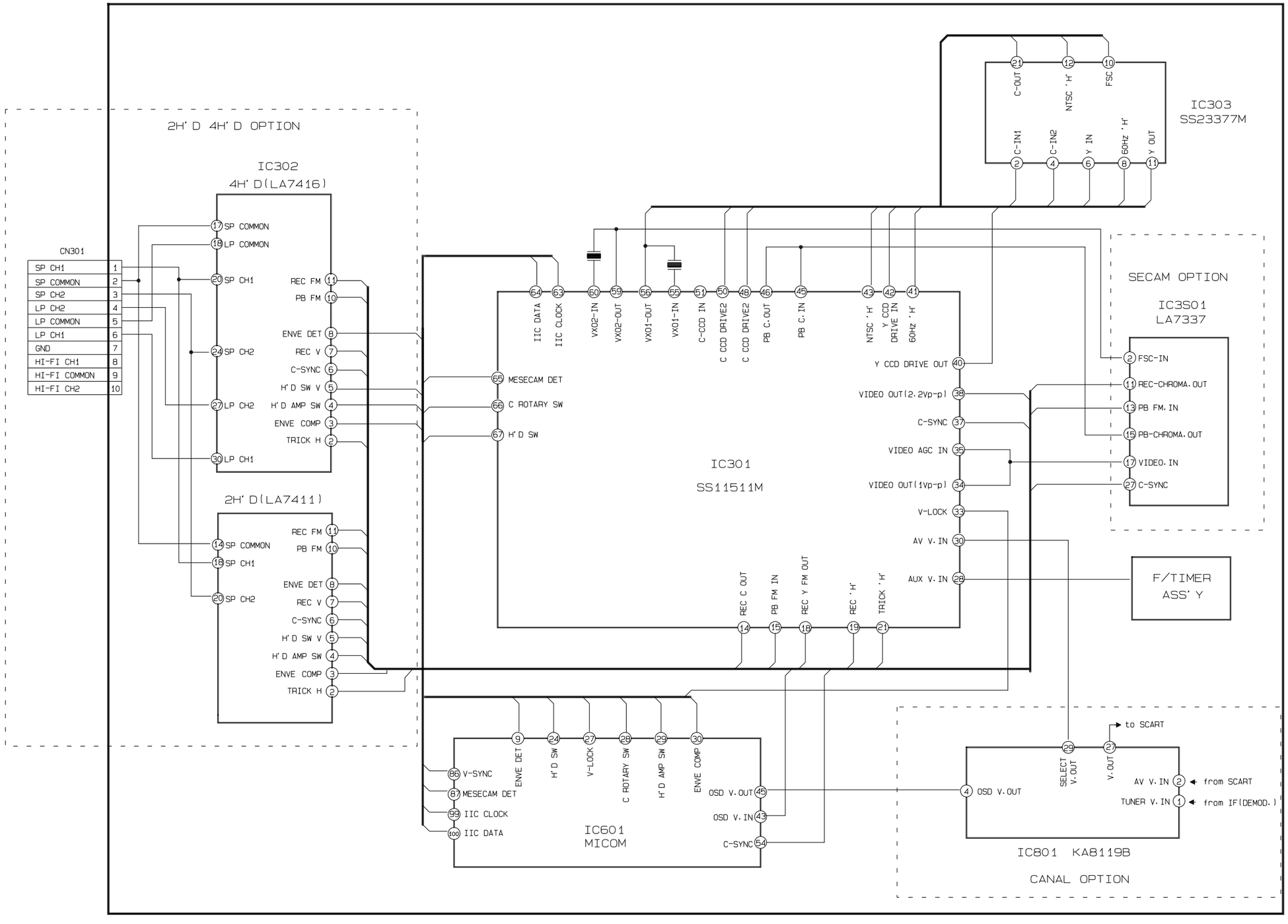
8-1 Overall Block Diagram



8-2 System Control



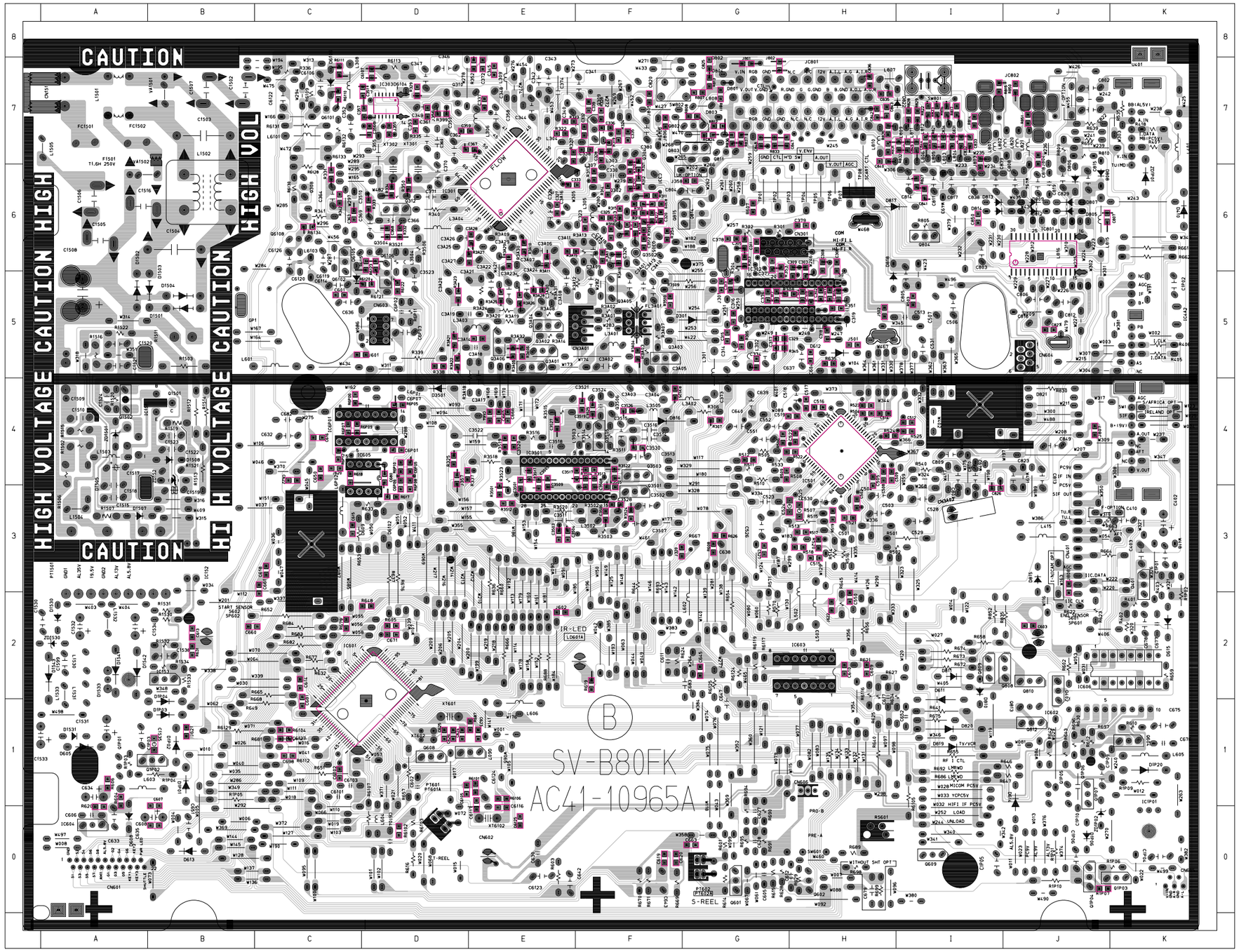
8-3 Video


2H' D 4H' D OPTION
IC302
4H' D(LA7416)
CN301
SP CH1 1
SP COMMON 2
SP CH2 3
LP CH2 4
LP COMMON 5
LP CH1 6
GND 7
HI-FI CH1 8
HI-FI COMMON 9
HI-FI CH2 10
17 SP COMMON
18 LP COMMON
20 SP CH1
24 SP CH2
27 LP CH2
30 LP CH1
REC FM 11
PB FM 10
ENVE DET 8
REC V 7
C-SYNC 6
H' D SW V 5
H' D AMP SW 4
ENVE COMP 3
TRICK H 2
2H' D(LA7411)
14 SP COMMON
18 SP CH1
20 SP CH2
REC FM 11
PB FM 10
ENVE DET 8
REC V 7
C-SYNC 6
H' D SW V 5
H' D AMP SW 4
ENVE COMP 3
TRICK H 2
IC303
SS23377M
21 C-OUT
12 NTSC 'H'
10 FSC
2 C-IN1
4 C-IN2
6 Y IN
8 60Hz 'H'
11 Y OUT
IC301
SS11511M
64 IIC DATA
63 IIC CLOCK
60 VXO2-IN
59 VXO2-OUT
56 VXO1-OUT
55 VXO1-IN
51 C-CCD IN
50 C CCD DRIVE2
48 C CCD DRIVE2
46 PB C.OUT
45 PB C.IN
43 NTSC 'H'
42 Y CCD DRIVE IN
41 60Hz 'H'
65 MESECAM DET
66 C ROTARY SW
67 H' D SW
Y CCD DRIVE OUT 40
VIDEO OUT(2.2Vp-p) 38
C-SYNC 37
VIDEO AGC IN 35
VIDEO OUT(1Vp-p) 34
V-LOCK 33
AV V. IN 30
AUX V. IN 28
REC C OUT 14
PB FM IN 15
REC Y FM OUT 16
REC 'H' 19
TRICK 'H' 21
SECAM OPTION
IC3S01
LA7337
2 FSC-IN
11 REC-CHROMA. OUT
13 PB FM. IN
15 PB-CHROMA. OUT
17 VIDEO. IN
27 C-SYNC
F/TIMER
ASS' Y
IC601
MICOM
9 ENVE DET
24 H' D SW
27 V-LOCK
28 C ROTARY SW
29 H' D AMP SW
30 ENVE COMP
86 V-SYNC
87 MESECAM DET
99 IIC CLOCK
100 IIC DATA
OSD V. OUT 45
OSD V. IN 43
C-SYNC 54
IC801 KA8119B
CANAL OPTION
to SCART
29 SELECT V. OUT
27 V. OUT
4 OSD V. OUT
AV V. IN 2 ◄ from SCART
TUNER V. IN 1 ◄ from IF(DEMOD.)

9. PCB Diagrams

		Page
9-1	Main - - -

9-1 Main



*** RESISTOR ***

R1P01 (J0)
R1P02 (K2)
R1P03 (A1)
R1P04 (A1)
R1P05 (B1)
R1P06 (J0)
R1P09 (K1)
R1P10 (J0)
R1S02 (A4)
R1S03 (B5)
R1S06 (A4)
R1S07 (A3)
R1S12 (B4)
R1S13 (B4)
R1S14 (B4)
R1S15 (A4)
R1S16 (A5)
R1S19 (B4)
R1S20 (A4)
R1S21 (B4)
R1S22 (A5)
R1S30 (B2)
R1S31 (B2)
R1S32 (B2)
R1S33 (B2)
R1S34 (B2)
R301 (G6)
R302 (G6)
R304 (G5)
R306 (G4)
R336 (C7)
R339 (D5)
R340 (D6)
R341 (C6)
R3A01 (F5)
R3A02 (F5)
R3A03 (F5)
R3A07 (F5)
R3A08 (E5)
R3A09 (E6)
R3A12 (F5)
R3A13 (F6)
R3A14 (E5)
R3A18 (E4)
R3A19 (E5)
R3A20 (E5)
R3A24 (E5)
R3A30 (E5)
R3A31 (E5)
R3A32 (E5)
R3S02 (F3)
R3S03 (F3)
R3S06 (D6)
R3S09 (F5)
R3S11 (F4)
R3S14 (F4)
R3S15 (E4)
R3S16 (E4)
R3S18 (E4)
R3S20 (E3)
R3S21 (D5)
R3S23 (E3)
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R418 (K7)
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R515 (G3)
R516 (H3)
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R535 (K7)
R540 (I4)
R570 (G2)
R571 (G2)
R601 (G0)
R602 (J2)
R603 (E0)
R610 (K1)
R6100 (F7)
R6103 (D0)
R6105 (I0)
R6107 (D0)
R6109 (C7)
R6112 (C1)
R6113 (D7)
R6116 (H1)
R6117 (G2)
R6119 (G2)
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R6133 (C7)
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R624 (F2)
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R628 (G0)
R629 (H0)
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R632 (C2)
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R641 (I1)
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R650 (J7)
R651 (C1)
R652 (B2)
R653 (C3)
R654 (G2)
R655 (I1)
R656 (H2)
R657 (D1)
R658 (I2)
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R660 (E2)
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R662 (K6)
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R667 (F3)
R668 (B1)
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R675 (I1)
R676 (D3)
R677 (C2)
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R683 (C2)
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R686 (I1)
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R690 (G0)
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R692 (I1)
R693 (F2)
R694 (G0)
R695 (G0)
R696 (J1)
R697 (J1)
R698 (H0)
R699 (H0)
R6P11 (D5)
R805 (I6)
R809 (J7)
R810 (J7)
R830 (J4)
R835 (J2)
R852 (I2)
W132 (H1)
W133 (H1)
W134 (H1)
W135 (H1)
W152 (E2)
W158 (E2)
XT301 (D6)
XT302 (D6)
XT601 (D1)
XT6102 (E0)

*** CONDENSER ***

C1P01 (K3)
C1P02 (K5)
C1P04 (K0)
C1P05 (I0)
C1P06 (J0)
C1P09 (J1)
C1P10 (J0)
C1S02 (B7)
C1S03 (B7)
C1S04 (B6)
C1S05 (A6)
C1S06 (A6)
C1S07 (B7)
C1S09 (A4)
C1S10 (A4)
C1S15 (A3)
C1S16 (B6)
C1S17 (A4)
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C1S19 (B3)
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C1S24 (A4)
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C3A05 (F5)
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C3A23 (E5)
C3A24 (E5)
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C3A26 (D6)
C3A27 (D6)
C3A29 (E6)
C3A30 (E5)
C3S02 (F3)
C3S07 (F3)
C3S10 (C6)
C3S11 (E3)
C3S13 (F4)
C3S14 (F4)
C3S15 (F4)
C3S16 (F4)
C3S18 (E4)
C3S21 (E4)
C3S22 (D4)
C3S23 (D5)
C3S24 (F4)
C403 (K3)
C410 (K3)
C501 (H3)
C503 (H3)
C504 (H3)
C506 (I5)
C507 (I5)
C513 (H5)
C518 (H4)
C523 (G3)
C526 (G3)
C528 (I3)
C529 (I3)
C530 (H3)
C531 (I5)
C551 (G4)
C552 (G4)
C602 (D1)
C605 (G0)
C606 (A0)
C6101 (C1)
C6103 (C1)
C6104 (D0)
C6106 (C7)
C611 (F2)
C6114 (C5)
C6119 (C6)
C612 (H0)
C6120 (C5)
C6122 (C7)
C6123 (E0)
C6124 (E1)
C6126 (C6)
C617 (H1)
C627 (G0)
C628 (G0)
C630 (E0)
C632 (C4)
C633 (A0)
C636 (C5)
C637 (H5)
C638 (G3)
C639 (G4)
C640 (G4)
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C643 (F0)
C647 (G1)
C651 (B0)
C652 (I1)
C675 (K1)
C676 (K1)
C677 (K2)
C678 (K2)
C679 (H0)
C682 (C4)
C683 (G2)
C6P02 (D5)
C6P03 (D5)
C6P07 (D4)
C801 (I4)
C802 (J7)
C803 (I6)
C804 (F6)
C805 (I5)
C806 (J5)
C808 (J6)
C809 (I4)
C810 (I4)
C811 (I6)
C812 (J5)
C813 (J4)
C814 (I6)
C815 (J6)
C816 (J5)
C817 (I6)
C818 (J6)
C819 (J6)
C820 (F7)
C822 (J7)
C823 (J3)
C829 (J6)
C838 (I6)
C839 (I6)
C849 (J4)
XT602 (D1)

*** DIODE ***

D1P01 (B1)
D1P02 (B1)
D1P03 (B1)
D1P04 (B1)
D1P06 (J0)
D1P20 (K1)
D1S01 (B5)
D1S02 (A5)
D1S03 (B5)
D1S04 (B5)
D1S05 (A4)
D1S07 (B3)
D1S08 (B4)
D1S30 (A2)
D1S31 (A1)
D1S33 (A2)
D1S41 (A2)
D1S42 (A2)
D1S43 (A1)
D301 (G5)
D3S01 (D4)
D410 (K6)
D605 (A1)
D608 (A0)
D609 (D3)
D6102 (D3)
D6104 (D7)
D6105 (C5)
D6106 (C7)
D611 (I1)
D612 (H5)
D613 (B0)
D614 (J1)
D615 (K2)
D801 (G7)
D802 (G7)
D803 (F7)
D804 (G7)
D805 (J6)
D806 (J6)
D807 (J6)
D808 (J6)
D809 (J6)
D810 (I1)
D811 (I2)
D812 (J6)
D813 (J6)
D814 (J6)
D815 (J3)
D816 (G4)
D817 (I6)
D818 (H6)
D819 (I1)
D820 (I1)
D821 (J4)
D822 (I7)
ZD1P01 (K7)
ZD1P02 (J1)
ZD1S01 (A4)
ZD152 (B4)
ZD1S30 (A2)

*** TR ***

IC1S3 (B2)
IC4A2 (K5)
IC604 (A0)
Q1P01 (A1)
Q1P02 (B1)
Q1P03 (J0)
Q1P04 (J0)
Q1P05 (J1)
Q1P06 (J1)
Q1P07 (J1)
Q1S02 (A4)
Q302 (F6)
Q303 (F6)
Q304 (F7)
Q305 (F6)
Q308 (C6)
Q309 (F7)
Q310 (D7)
Q312 (D6)
Q3A01 (E5)
Q3A02 (E5)
Q3A03 (F5)
Q3A04 (E5)
Q3A05 (F5)
Q3A06 (E5)
Q3S01 (F3)
Q3S02 (F6)
Q3S03 (F4)
Q3S04 (C6)
Q3S05 (F4)
Q3S06 (F4)
Q401 (K2)
Q402 (J2)
Q601 (G0)
Q602 (H0)
Q604 (K1)
Q607 (E1)
Q608 (D1)
Q609 (I0)
Q6101 (C7)
Q6102 (C6)
Q6106 (D5)
Q6108 (C6)
Q802 (G7)
Q803 (G7)
Q804 (I6)
Q808 (J2)
Q809 (I2)
Q810 (J2)
Q811 (G7)
Q812 (J1)
Q813 (J1)
Q814 (G6)
Q815 (G6)

*** IC&WAFER ***

CN1S1 (A7)
CN3A01 (E5)
CN401 (J4)
CN602 (E0)
CN604 (J5)
CN606 (H1)
IC1P01 (K0)
IC302 (H5)
IC3S01 (E3)
IC603 (H2)
IC605 (D4)
IC606 (J2)
IC6P01 (D4)
JC802 (I7)
S601 (J2)
S602 (B2)

*** CHIP ***

C1P03 (B1)
C301 (H5)
C302 (H5)
C303 (H5)
C304 (H5)
C305 (G6)
C306 (H6)
C307 (H5)
C308 (H6)
C309 (H5)
C310 (H5)
C311 (G6)
C312 (G5)
C313 (G5)
C315 (G5)
C316 (G5)
C318 (H5)
C320 (F6)
C321 (F6)
C322 (F6)
C323 (F6)
C325 (F6)
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C328 (F7)
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C334 (G5)
C335 (F7)
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C367 (E7)
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C372 (E7)
C376 (G5)
C377 (G6)
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C379 (H6)
C3A14 (E5)
C3A28 (E6)
C3S01 (E4)
C3S03 (E3)
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C3S05 (E4)
C3S06 (F3)
C3S08 (F4)
C3S09 (E4)
C3S12 (F6)
C3S17 (F4)
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C3S27 (E4)
C3S28 (F3)
C3S30 (F4)
C502 (H3)
C505 (H4)
C508 (H4)
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C512 (I4)
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C516 (H4)
C517 (H4)
C519 (H4)
C522 (H4)
C524 (H3)
C525 (H3)
C527 (G3)
C550 (H2)
C601 (C5)
C603 (J2)
C604 (H5)
C607 (B1)
C608 (B0)
C609 (H2)
C610 (H2)
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C6105 (D1)
C6107 (D7)
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C616 (C4)
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C6P05 (D4)
C6P06 (D3)
C807 (J6)
C824 (G7)
C825 (G7)
C826 (I3)
C827 (J5)
C831 (I7)
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C836 (H7)
C840 (H7)
C841 (I6)
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C843 (H7)
C844 (I7)
C845 (I7)
C847 (G7)
C848 (G7)
C850 (I6)
IC301 (E6)
IC303 (D7)
IC501 (H4)
IC801 (J6)
J301 (G5)
J320 (F3)
J355 (D7)
J356 (D7)
J357 (D4)
J358 (G6)
J501 (H5)
J502 (H5)
J601 (D5)
J602 (E2)
J620 (C4)
J621 (B1)
J622 (H2)
J801 (G7)
J802 (G7)
J803 (I7)
J804 (J7)
J805 (F7)
J806 (F7)
J807 (J4)
J808 (J3)
R1P07 (J0)
R303 (G6)
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R3S25 (F4)
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R524 (H4)
R525 (I4)
R604 (A1)
R605 (D2)
R606 (A1)
R607 (G6)
R608 (G3)
R6101 (E1)
R6102 (D0)
R6104 (C1)
R6106 (E1)
R6110 (C7)
R6111 (C7)
R6115 (D6)
R6120 (D5)
R6122 (D5)
R6123 (D6)
R6134 (C6)
R617 (D3)
R618 (C4)
R619 (F2)
R620 (A0)
R626 (G3)
R631 (B2)
R635 (H5)
R648 (D2)
R679 (C2)
R687 (E1)
R6P05 (D4)
R6P06 (C4)
R6P07 (C4)
R6P08 (D3)
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R6P10 (D4)
R6P12 (C4)
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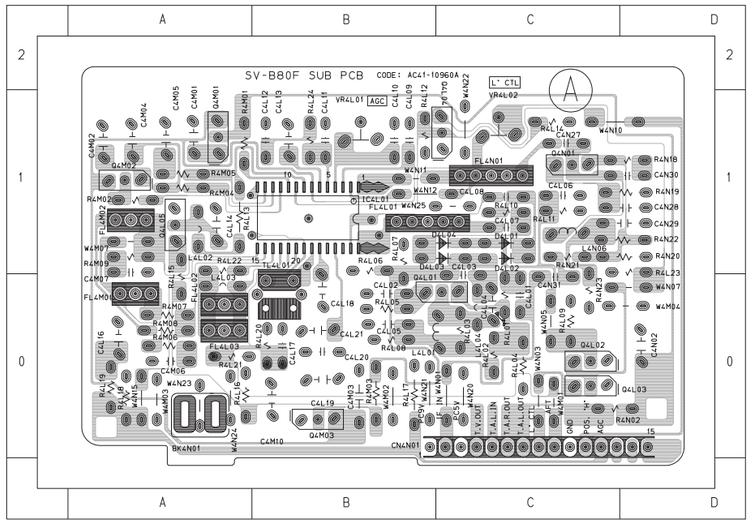
R808 (G7)
R811 (G7)
R812 (G7)
R813 (G7)
R814 (I7)
R815 (I7)
R816 (I7)
R817 (I7)
R820 (I7)
R821 (I7)
R822 (I7)
R823 (I7)
R826 (H7)
R827 (I6)
R828 (I7)
R829 (I7)
R831 (H7)
R832 (I7)
R833 (G7)
R836 (G7)
R837 (G7)
R850 (J7)
R851 (J7)

9-2 SUB (SV415F/410F/215F/210F Only)



*** RESISTOR ***

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R4L02 (C0)
R4L03 (C0)
R4L04 (C0)
R4L05 (B0)
R4L06 (B1)
R4L07 (B0)
R4L08 (B0)
R4L09 (C0)
R4L10 (C1)
R4L11 (C1)
R4L12 (B1)
R4L13 (A1)
R4L14 (C1)
R4L15 (A1)
R4L16 (A0)
R4L17 (B0)
R4L18 (A0)
R4L19 (A0)
R4L20 (B0)
R4L21 (A0)
R4L22 (A1)
R4L23 (D1)
R4L24 (B1)
R4M01 (A1)
R4M02 (A1)
R4M03 (B0)
R4M04 (A1)
R4M05 (A1)
R4M06 (A0)
R4M07 (A0)
R4M08 (A0)
R4M09 (A1)
R4N02 (D0)
R4N18 (D1)
R4N19 (D1)
R4N20 (C1)
R4N21 (C1)
R4N22 (D1)
R4N23 (C0)

*** CONDENSER ***

C4L01 (C0)
C4L02 (B0)
C4L03 (C0)
C4L04 (C0)
C4L05 (B0)
C4L06 (C1)
C4L07 (C1)
C4L08 (C1)
C4L09 (B1)
C4L10 (B1)
C4L11 (B1)
C4L12 (B1)
C4L13 (B1)
C4L14 (A1)
C4L16 (A0)
C4L17 (B0)
C4L18 (B0)
C4L19 (B0)
C4L20 (B0)
C4L21 (B0)
C4M01 (A1)
C4M02 (A1)
C4M03 (B0)
C4M04 (A1)
C4M05 (A1)
C4M06 (A0)
C4M07 (A1)
C4M10 (B0)
C4N02 (D0)
C4N27 (C1)
C4N28 (D1)
C4N29 (D1)
C4N30 (D1)
C4N31 (C0)

*** DIODE ***

D4L01 (C1)
D4L02 (C1)
D4L03 (C1)
D4L04 (C1)

*** TR ***

Q4L01 (C0)
Q4L02 (C0)
Q4L03 (C0)
Q4L04 (C1)
Q4L05 (A1)
Q4M01 (A1)
Q4M02 (A1)
Q4M03 (B0)
Q4N01 (C1)

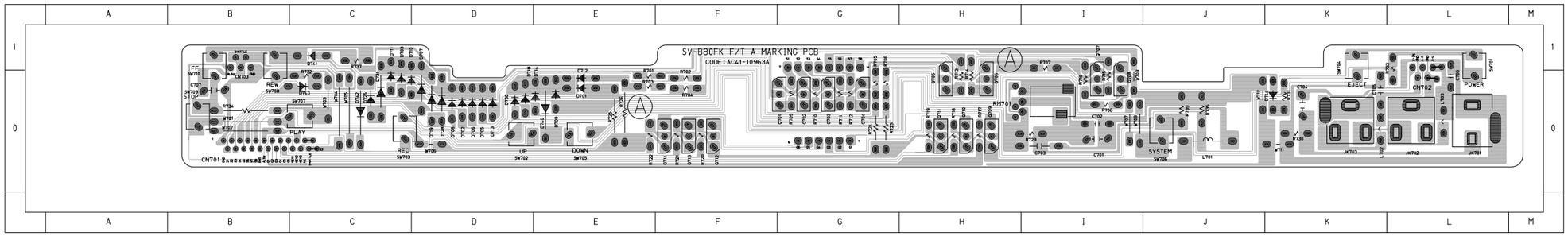
*** IC&WAFER ***

CN4N01 (B0)

*** CHIP ***

IC4L01 (B1)

9-3 Function-Timer



*** RESISTOR ***

R701 (E0)
R702 (F0)
R703 (E0)
R704 (F0)
R705 (G0)
R706 (G0)
R707 (I1)
R708 (I0)
R709 (G0)
R710 (G0)
R711 (G0)
R712 (G0)
R713 (H0)
R714 (H0)
R715 (I0)
R716 (I0)
R717 (H0)
R718 (H0)
R719 (H0)
R720 (F0)
R721 (F0)
R722 (E0)
R723 (G0)
R724 (G0)
R725 (E0)
R726 (E0)
R729 (H0)
R730 (K0)
R731 (K0)
R732 (C0)
R733 (L0)
R734 (B0)
R735 (J0)
R737 (C1)
R739 (J0)

*** CONDENSER ***

C701 (I0)
C702 (I0)
C703 (H0)
C704 (K0)
C705 (K0)
C706 (L0)
C707 (B0)

*** DIODE ***

D701 (E0)
D702 (D0)
D703 (C1)
D705 (D0)
D706 (D0)
D707 (D1)
D708 (D0)
D709 (E0)
D710 (D1)
D711 (C1)
D712 (E0)
D713 (D0)
D714 (E0)
D718 (D0)
D719 (D0)
D725 (C0)
D728 (D0)
D730 (D0)
D731 (C1)
D740 (E0)
D741 (C1)
D742 (C0)
D743 (C0)
D744 (K0)

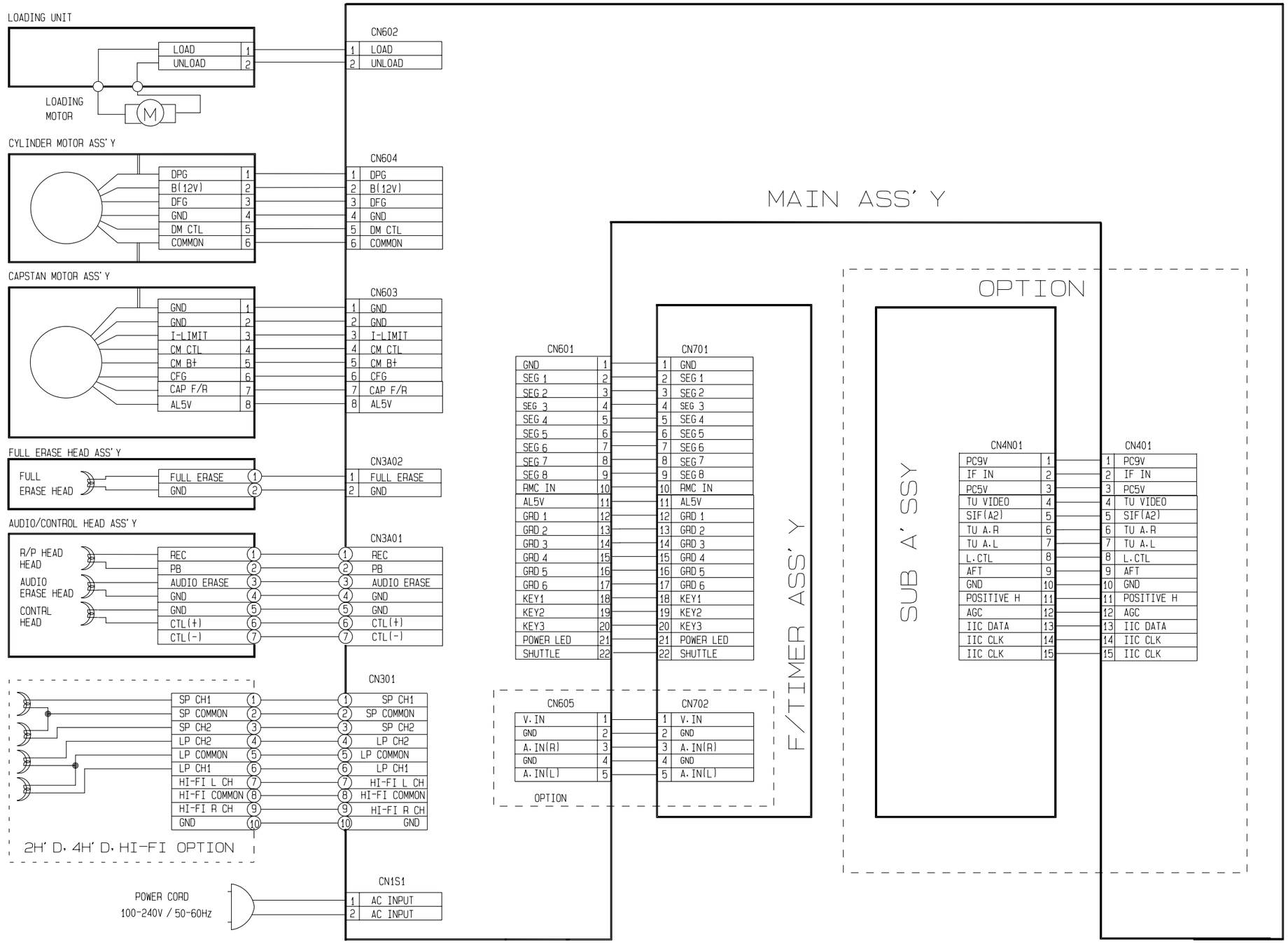
*** TR ***

*** IC&WAFER ***

JK701 (L0)
JK702 (K0)
JK703 (L0)

*** CHIP ***

10. Wiring Diagram



11. Schematic Diagrams

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Note

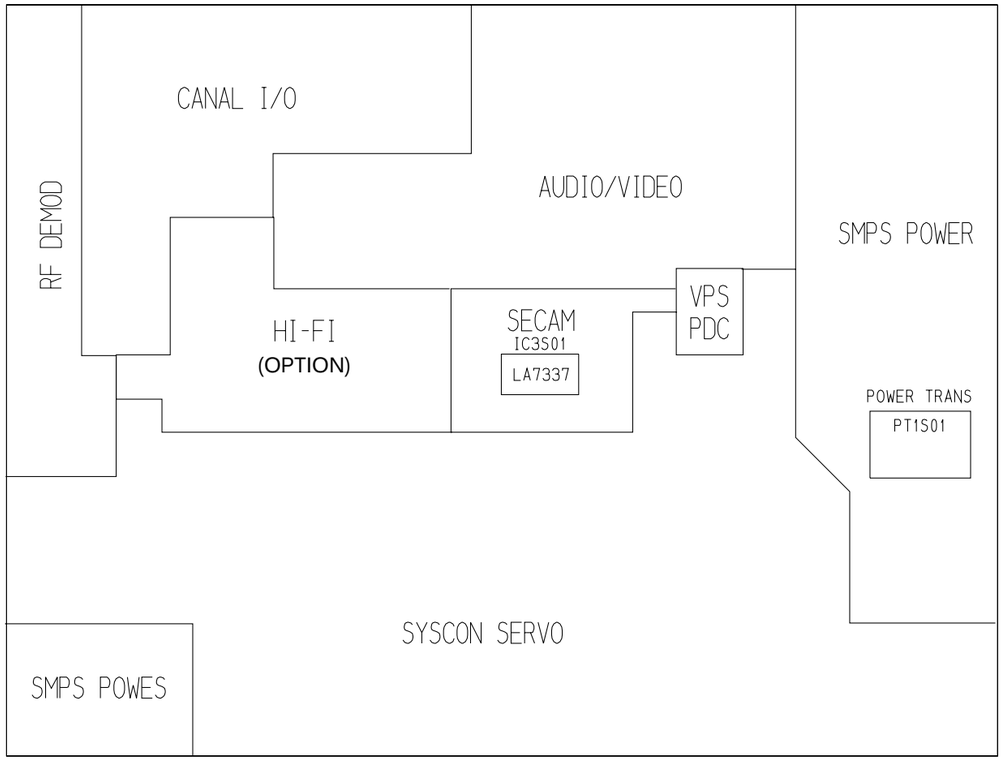
For schematic Diagram
- Resistors are in ohms, 1/8W unless otherwise noted.
- Circled numbers refer to waveforms.

Special note :
Most semiconductor devices are electrostatically sensitive and therefore require the special handling techniques described under the “electrostatically sensitive (ES) devices” section of this service manual.

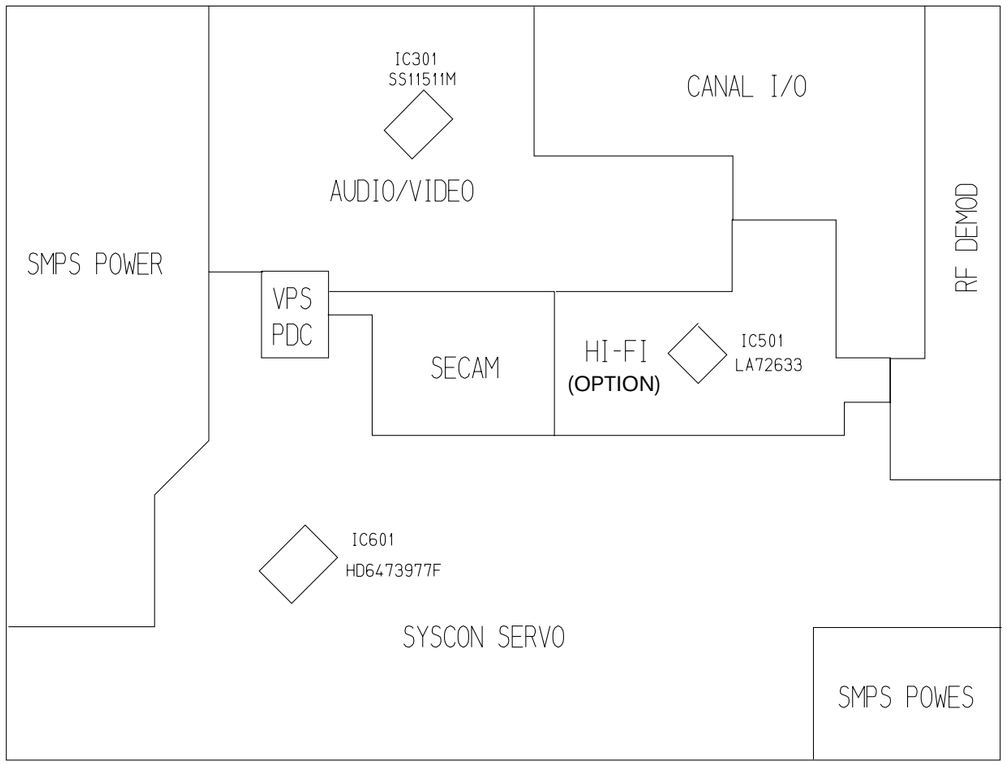
Note :
Do not use the part number shown on this drawing for ordering. The correct part number is shown in the parts list (may be slightly different or amended since this drawing was prepared).

Important safety notices :
Components identified with the mark ⚠ have the special characteristics for safety. When replacing any of these components. Use only the same type.

◆ Block Identification of Main PCB

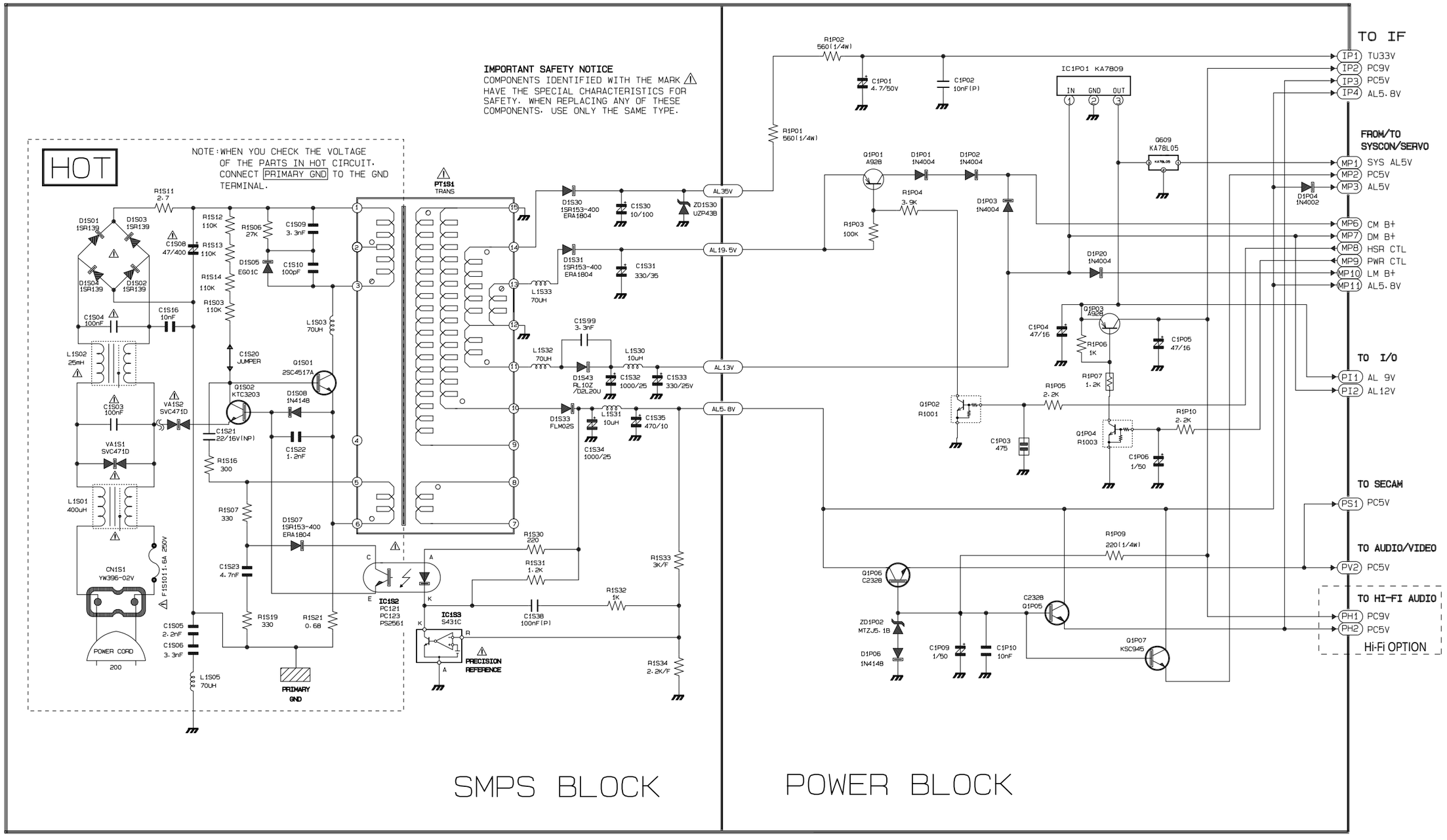


(Component Side)

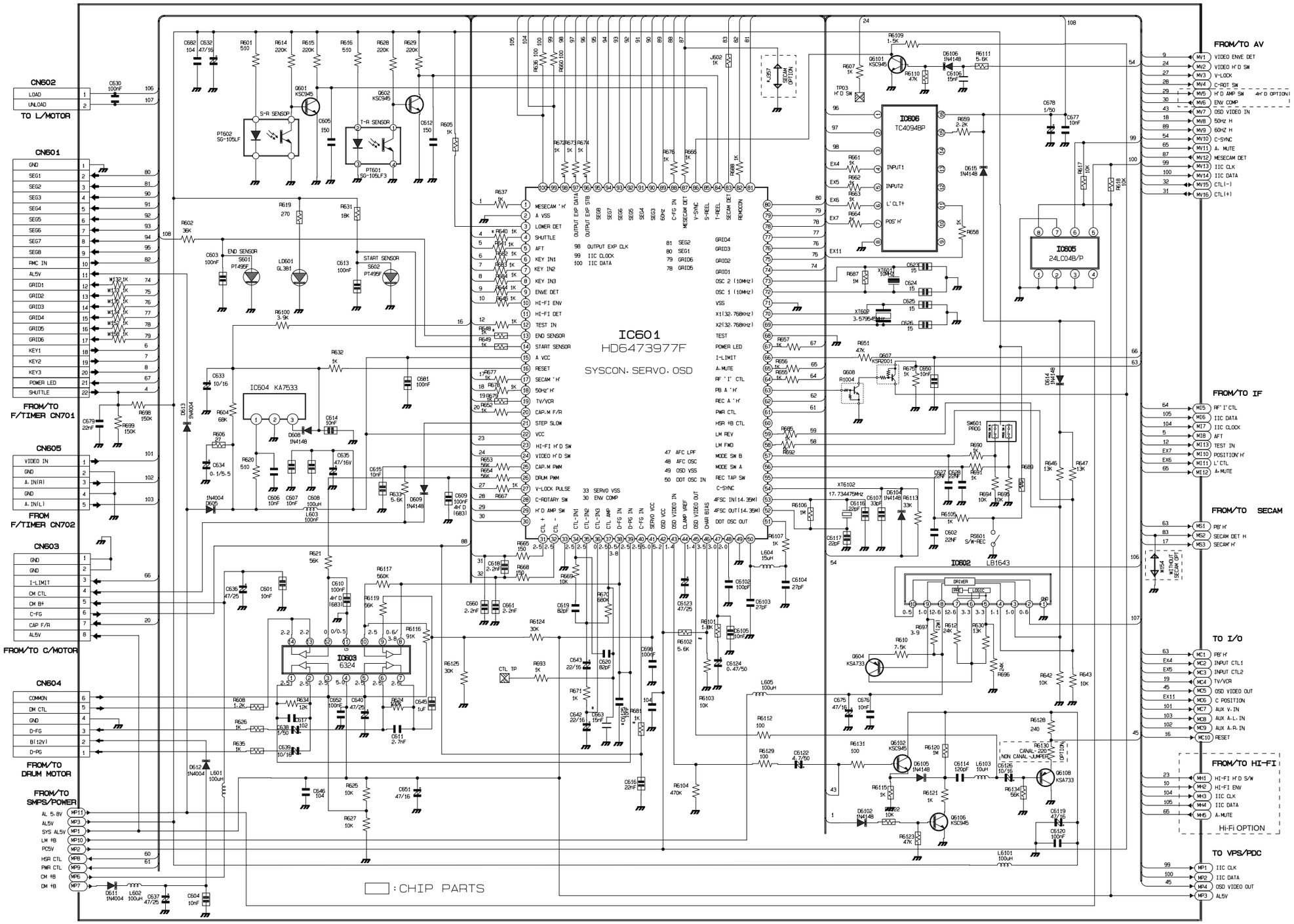


(Conductor Side)

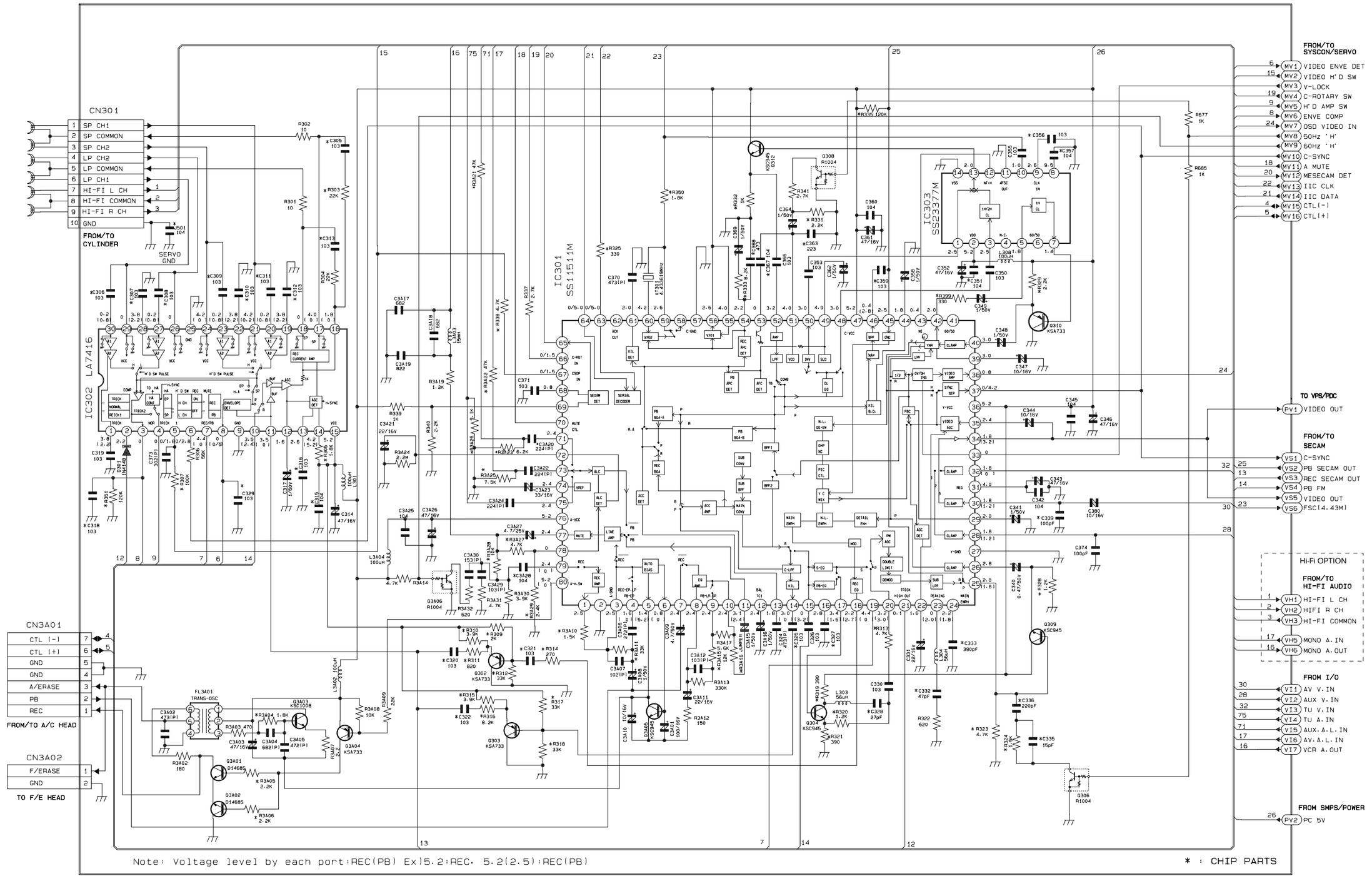
11-1 S.M.P.S/POWER



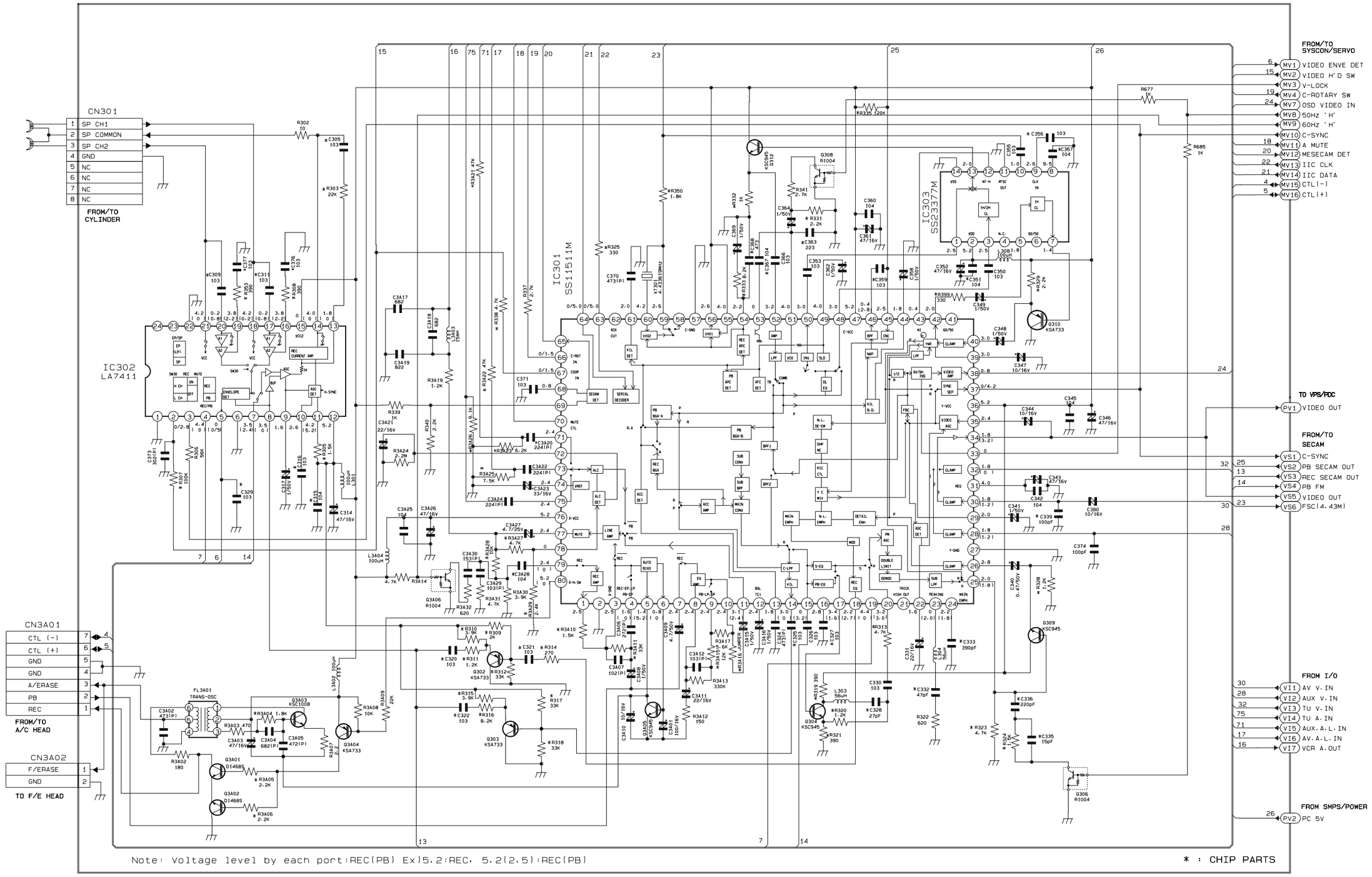
11-2 System Control/Servo



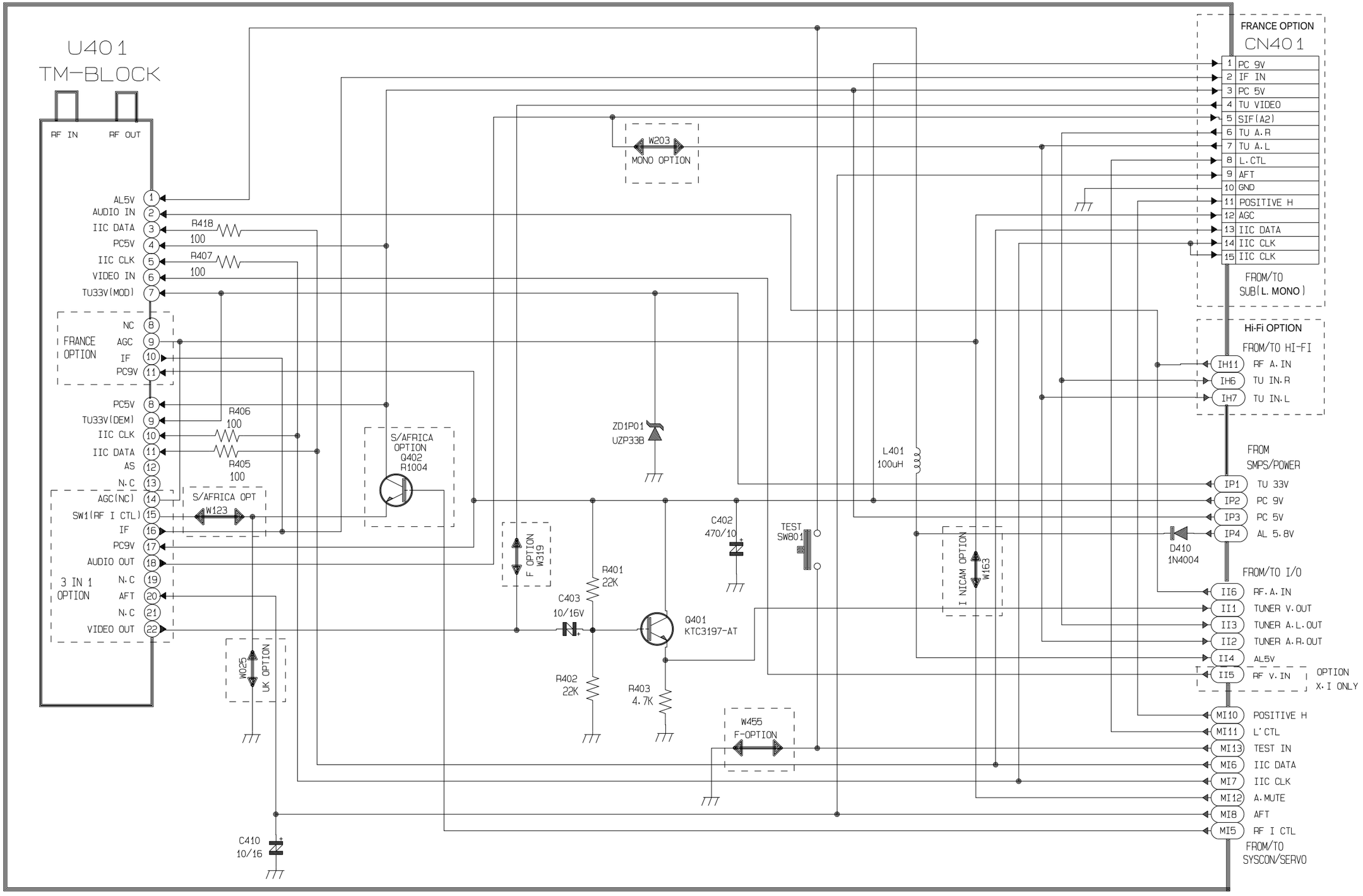
11-3 Audio/Video (4 Head)



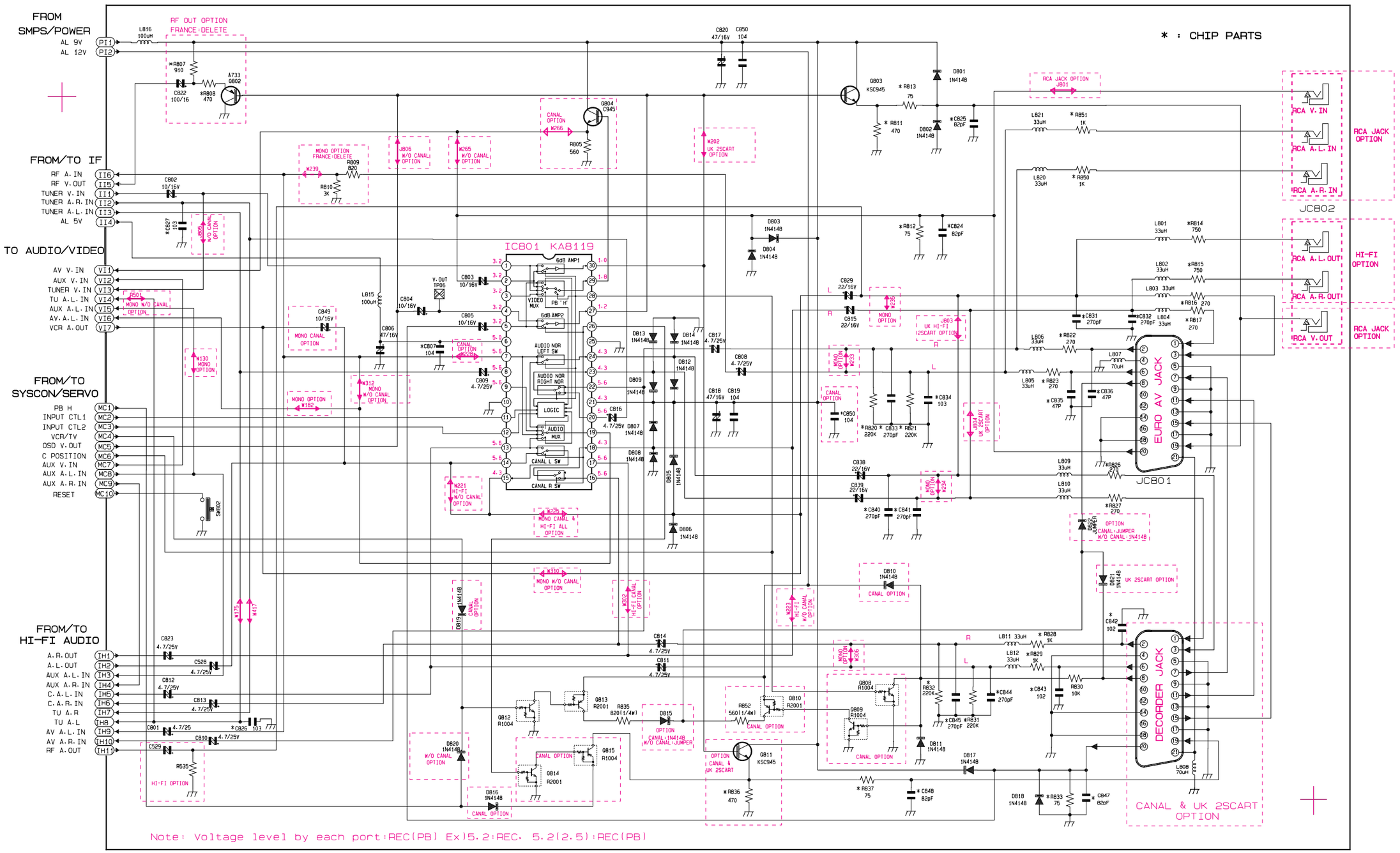
11-4 Audio/Video (2 Head)



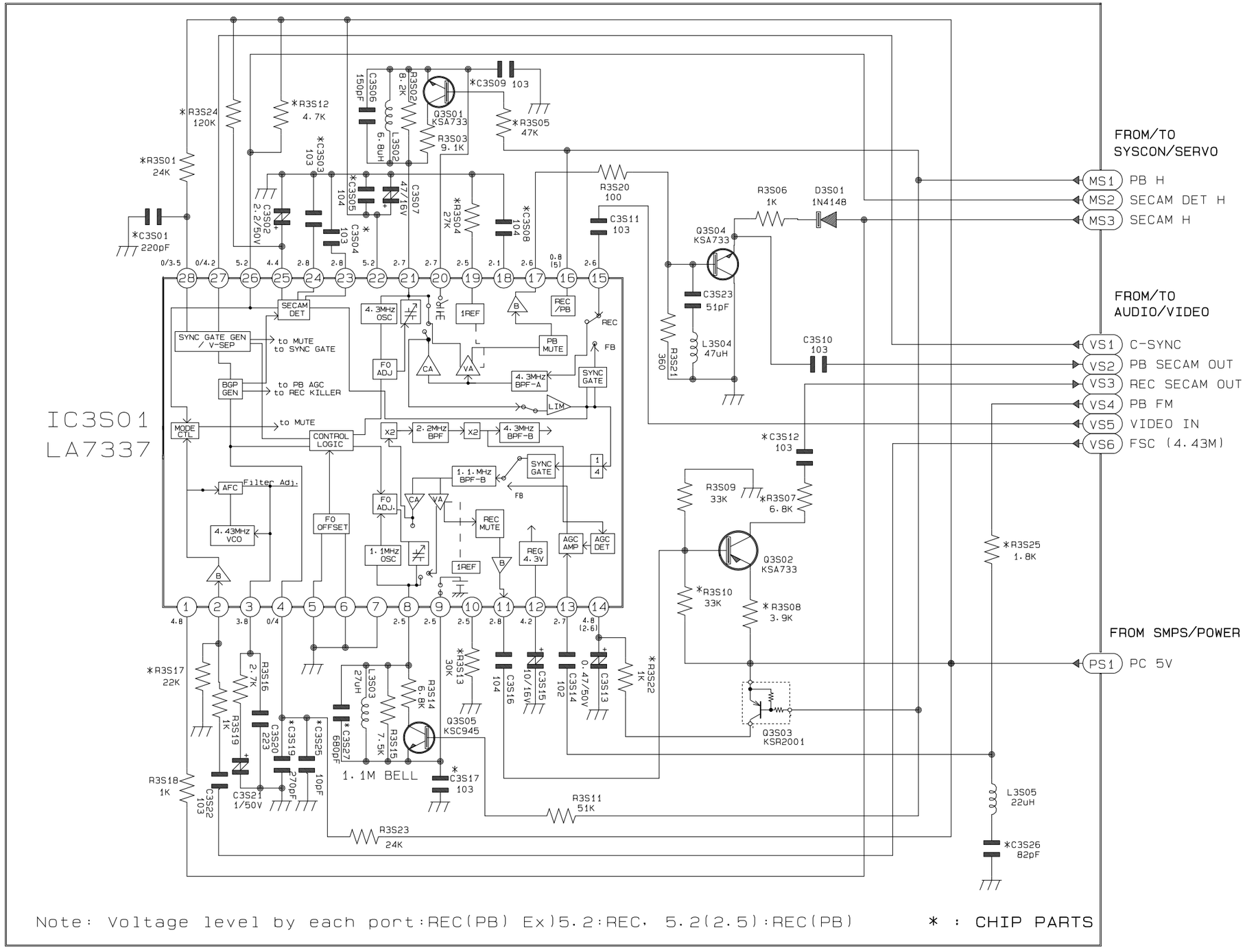
11-5 IF


U401
TM-BLOCK
RF IN
RF OUT
AL5V
AUDIO IN
IIC DATA
PC5V
IIC CLK
VIDEO IN
TU33V(MOD)
FRANCE OPTION
NC
AGC
IF
PC9V
PC5V
TU33V(DEM)
IIC CLK
IIC DATA
AS
N.C
AGC(NC)
SW1(RF I CTL)
IF
PC9V
AUDIO OUT
3 IN 1 OPTION
N.C
AFT
N.C
VIDEO OUT
R418 100
R407 100
R406 100
R405 100
W203 MONO OPTION
S/AFRICA OPTION Q402 R1004
S/AFRICA OPT W123
W025 UK OPTION
F OPTION W319
ZD1P01 UZP33B
L401 100uH
C402 470/10
TEST SW801
I NICAM OPTION W163
R401 22K
C403 10/16V
Q401 KTC3197-AT
R402 22K
R403 4.7K
W455 F-OPTION
C410 10/16
D410 1N4004
FRANCE OPTION
CN401
1 PC 9V
2 IF IN
3 PC 5V
4 TU VIDEO
5 SIF(A2)
6 TU A.R
7 TU A.L
8 L.CTL
9 AFT
10 GND
11 POSITIVE H
12 AGC
13 IIC DATA
14 IIC CLK
15 IIC CLK
FROM/TO SUB(L. MONO)
Hi-Fi OPTION
FROM/TO HI-FI
IH11 RF A. IN
IH6 TU IN. R
IH7 TU IN. L
FROM SMPS/POWER
IP1 TU 33V
IP2 PC 9V
IP3 PC 5V
IP4 AL 5.8V
FROM/TO I/O
II6 RF. A. IN
II1 TUNER V. OUT
II3 TUNER A. L. OUT
II2 TUNER A. R. OUT
II4 AL5V
II5 RF V. IN
OPTION X. I ONLY
MI10 POSITIVE H
MI11 L' CTL
MI13 TEST IN
MI6 IIC DATA
MI7 IIC CLK
MI12 A. MUTE
MI8 AFT
MI5 RF I CTL
FROM/TO SYSCON/SERVO

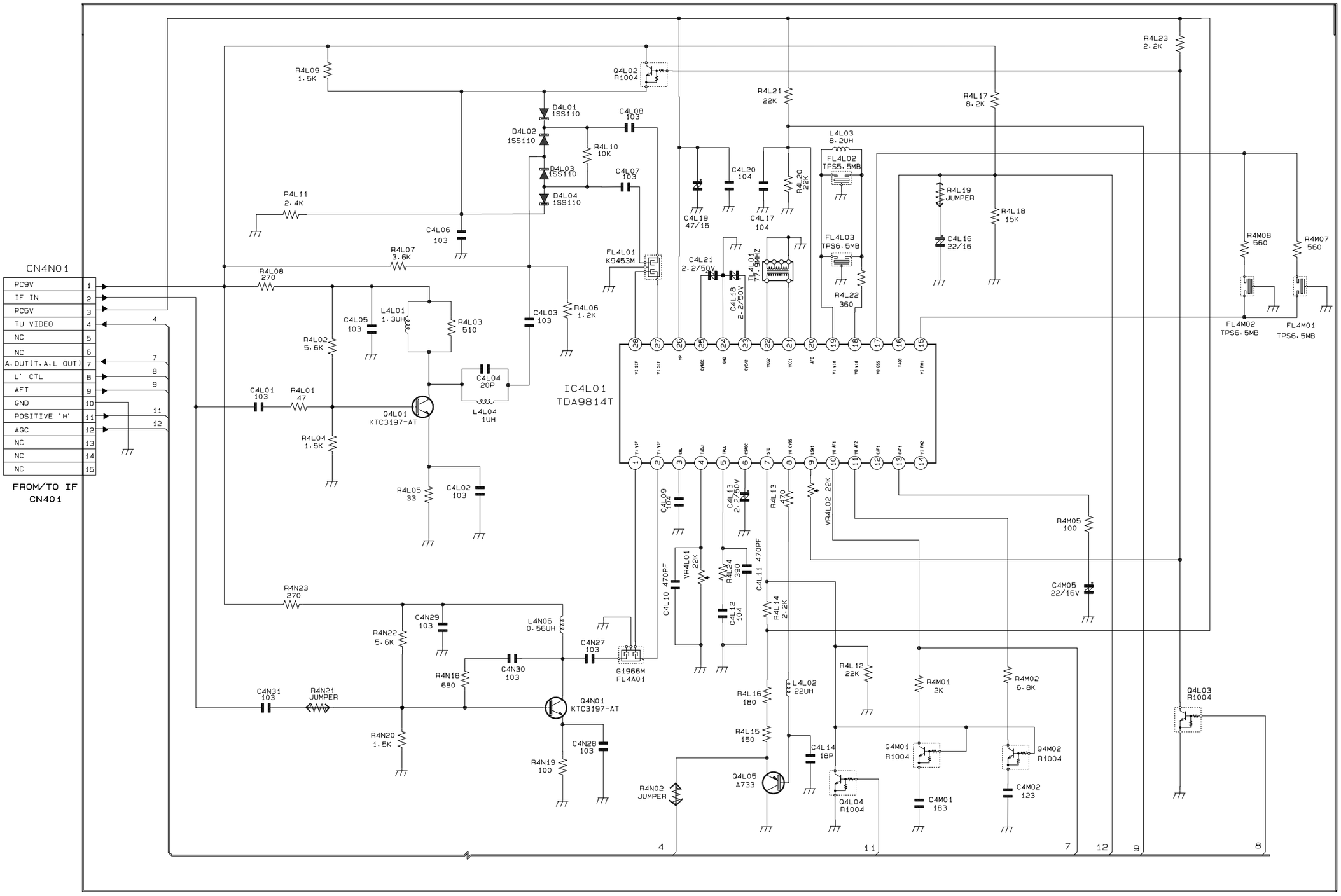
11-6 I/O


* : CHIP PARTS
FROM SMPS/POWER
AL 9V
AL 12V
FROM/TO IF
RF A.IN
RF V.OUT
TUNER V.IN
TUNER A.R.IN
TUNER A.L.IN
AL 5V
TO AUDIO/VIDEO
AV V.IN
AUX V.IN
TUNER V.IN
TU A.L.IN
AUX A.L.IN
AV.A.L.IN
VCR A.OUT
FROM/TO SYSCON/SERVO
PB H
INPUT CTL1
INPUT CTL2
VCR/TV
OSD V.OUT
C POSITION
AUX V.IN
AUX A.L.IN
AUX A.R.IN
RESET
FROM/TO HI-FI AUDIO
A.R.OUT
A.L.OUT
AUX A.L.IN
AUX A.R.IN
C.A.L.IN
C.A.R.IN
TU A.R
TU A.L
AV A.L.IN
AV A.R.IN
RF A.OUT
IC801 KA8119
RF OUT OPTION FRANCE:DELETE
MONO OPTION FRANCE:DELETE
CANAL OPTION
MONO CANAL OPTION
MONO W/O CANAL OPTION
MONO OPTION
CANAL OPTION
HI-FI OPTION
RCA JACK OPTION
RCA V.IN
RCA A.L.IN
RCA A.R.IN
RCA V.OUT
RCA A.L.OUT
RCA A.R.OUT
HI-FI OPTION
JC802
EURO AV JACK
DECORDER JACK
JC801
UK 2SCART OPTION
CANAL & UK 2SCART OPTION
CANAL JUMPER W/O CANAL:1N4148
Note: Voltage level by each port:REC(PB) Ex)5.2:REC, 5.2(2.5):REC(PB)

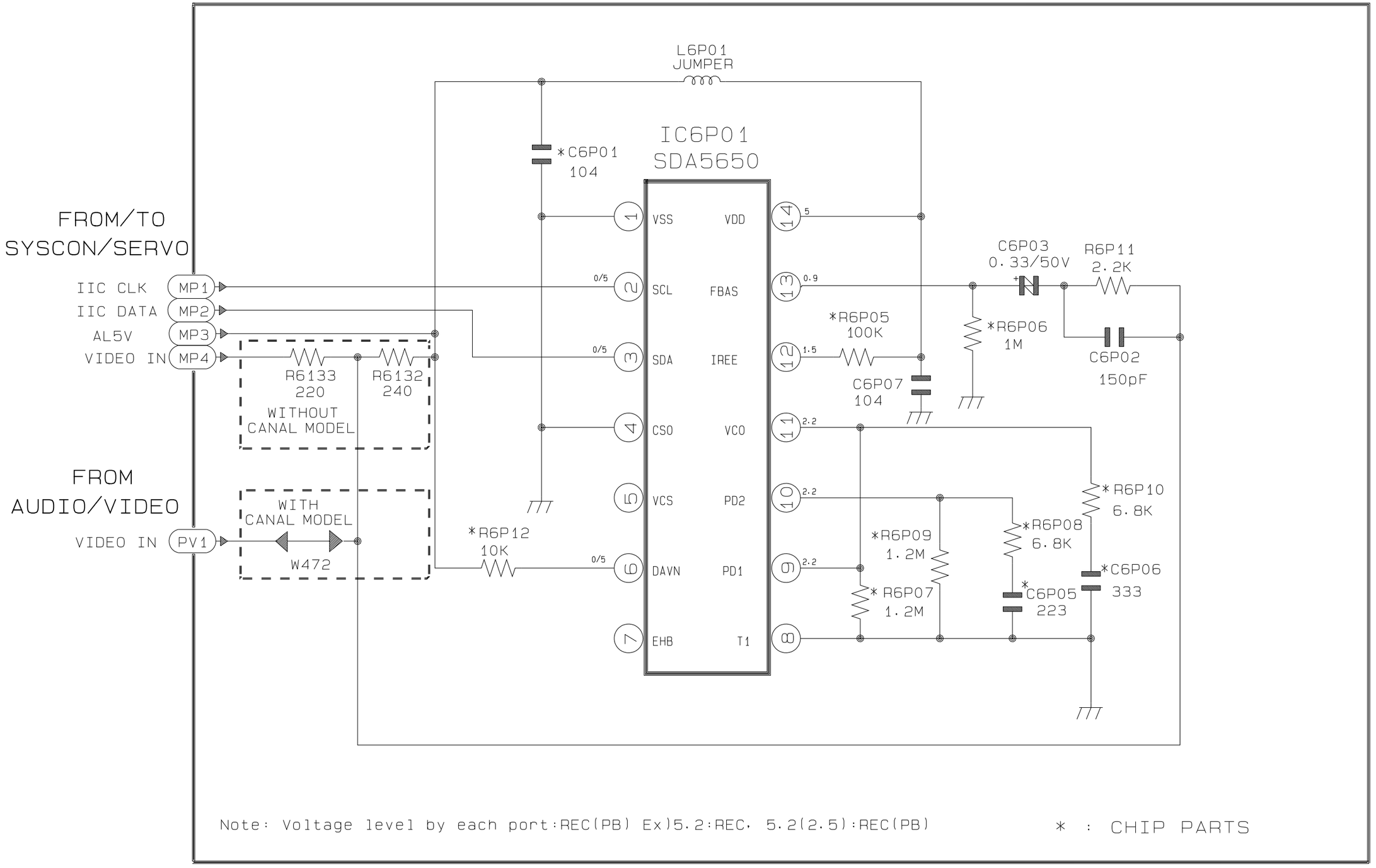
11-7 SECAM (SV-415F/410F/215F/210F Only)



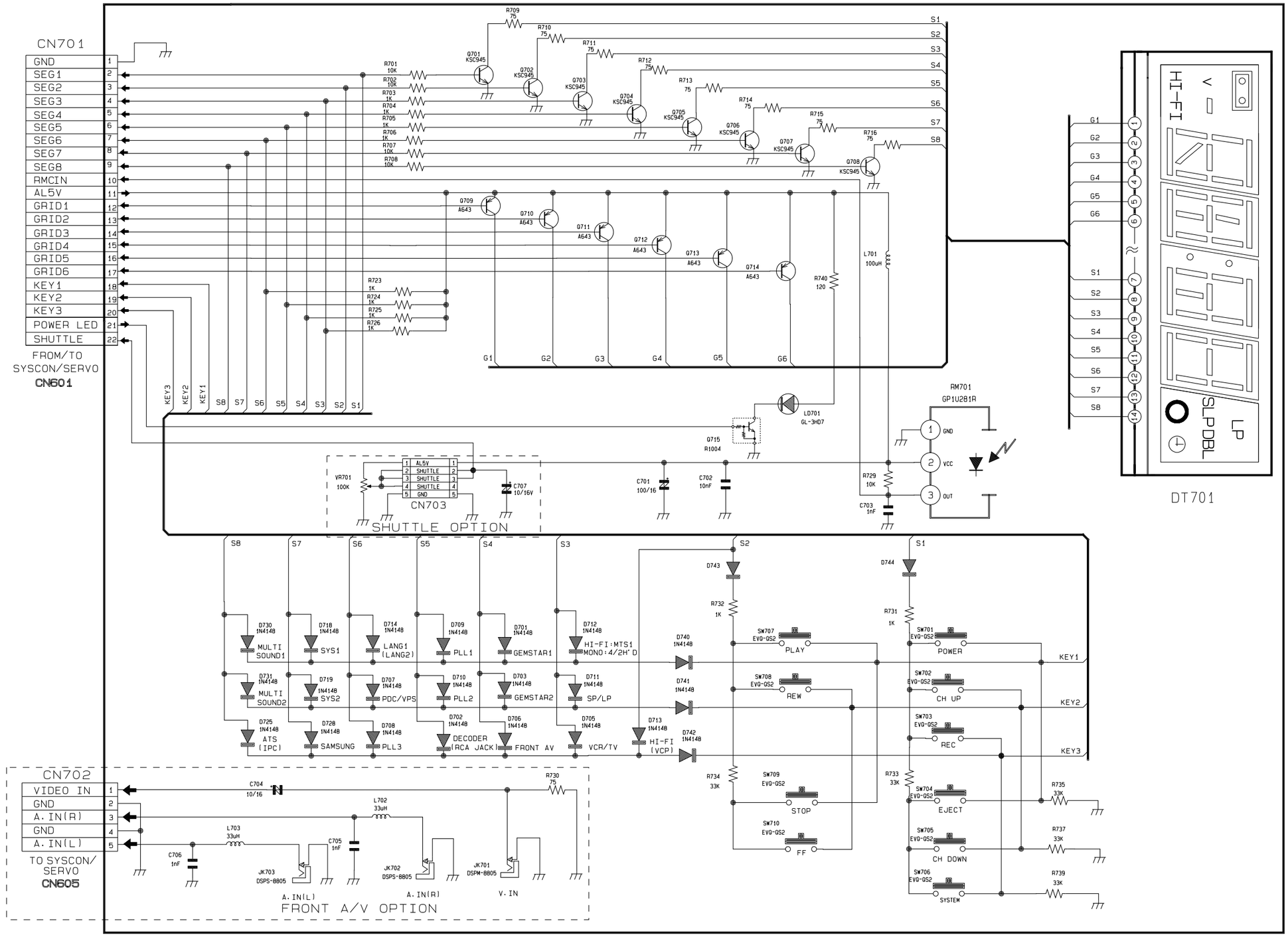
11-8 SUB (L. MONO ; SV-415F/410F/215F/210F Only)



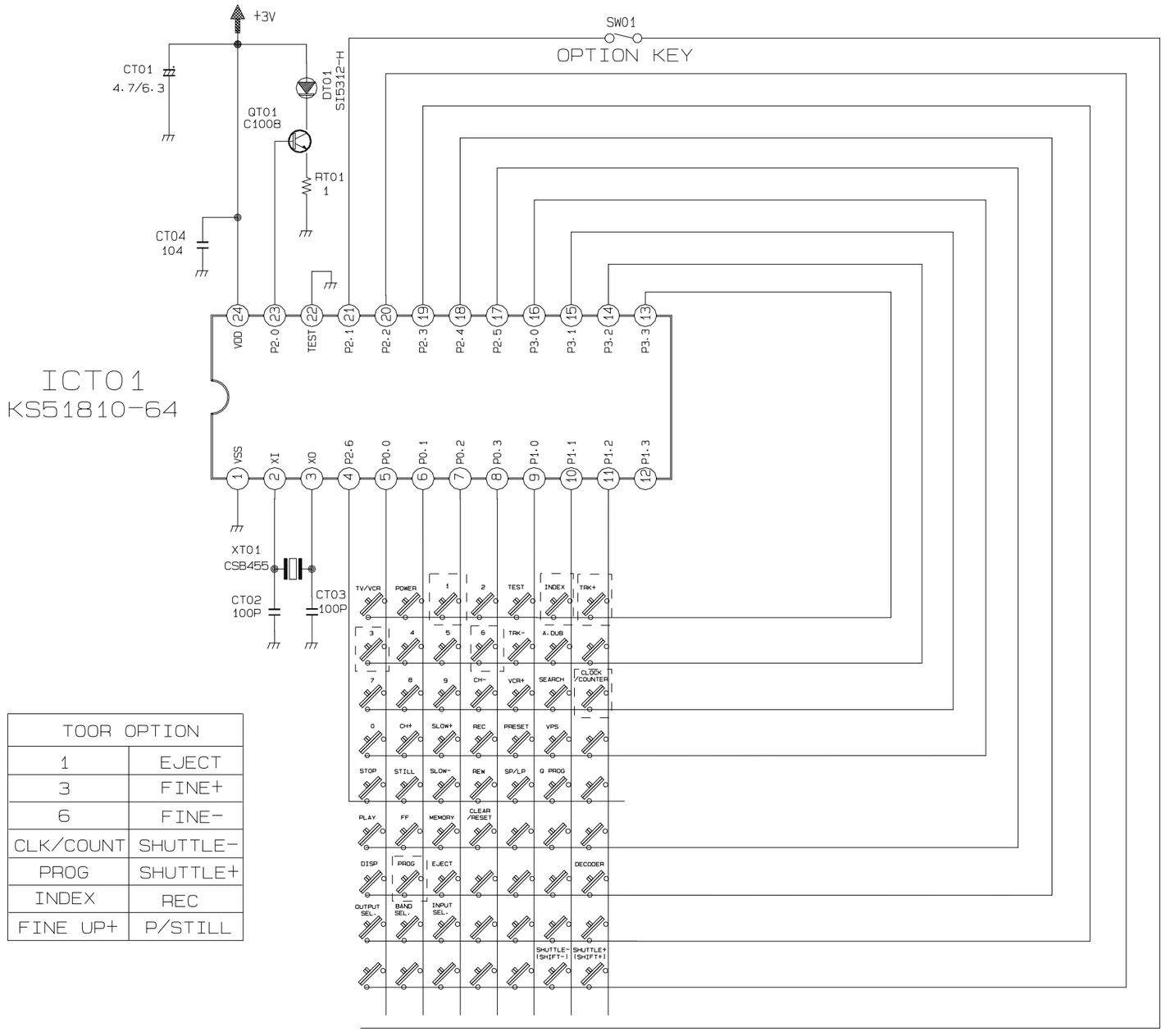
11-9 VPS/PDC


L6P01
JUMPER
IC6P01
SDA5650
*C6P01
104
FROM/TO
SYSCON/SERVO
IIC CLK
IIC DATA
AL5V
VIDEO IN
MP1
MP2
MP3
MP4
R6133
220
R6132
240
WITHOUT
CANAL MODEL
FROM
AUDIO/VIDEO
VIDEO IN
PV1
WITH
CANAL MODEL
W472
*R6P12
10K
1 VSS
2 SCL
3 SDA
4 CSO
5 VCS
6 DAVN
7 EHB
14 VDD
13 FBAS
12 IREE
11 VCO
10 PD2
9 PD1
8 T1
0/5
0/5
0/5
5
0.9
1.5
2.2
2.2
2.2
C6P03
0.33/50V
R6P11
2.2K
*R6P05
100K
*R6P06
1M
C6P02
150pF
C6P07
104
*R6P10
6.8K
*R6P08
6.8K
*R6P09
1.2M
*R6P07
1.2M
*C6P06
333
*C6P05
223
Note: Voltage level by each port:REC(PB) Ex)5.2:REC, 5.2(2.5):REC(PB)
* : CHIP PARTS

11-10 Function-Timer

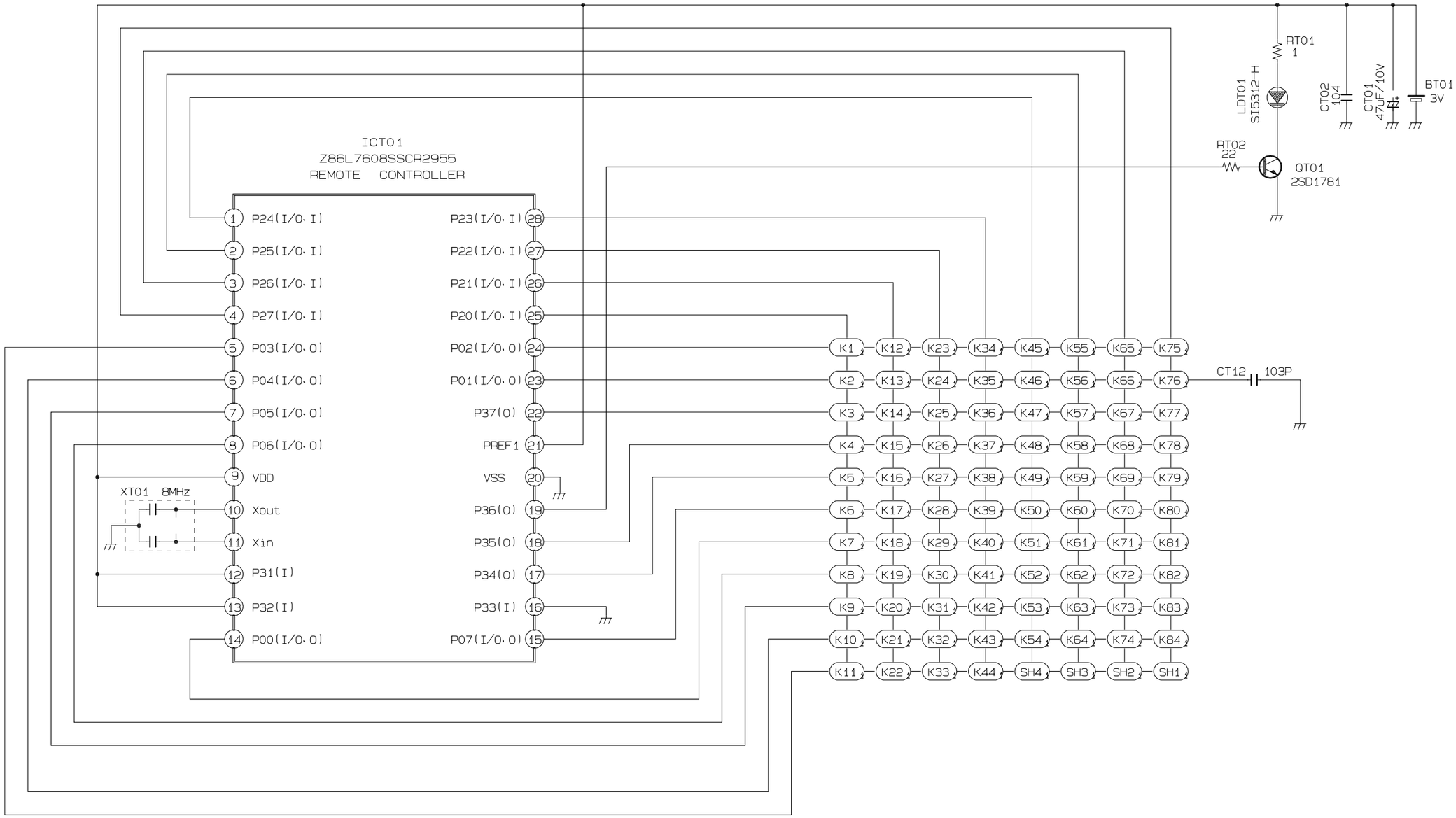


11-11 Remote-Control (Normal)



TOOR OPTION	
1	EJECT
3	FINE+
6	FINE-
CLK/COUNT	SHUTTLE-
PROG	SHUTTLE+
INDEX	REC
FINE UP+	P/STILL

11-12 Remote-Control (Multi)



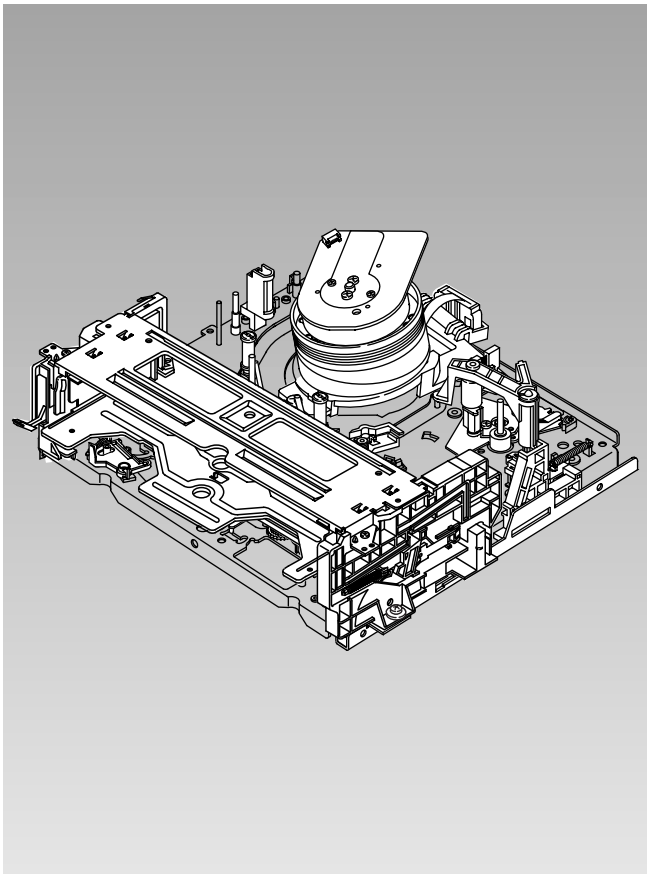
SAMSUNG

DX7-A/DX7-AC
DX8-A/DX8-AC

MECHANICAL Manual

◆ File with the SERVICE MANUAL.

VHS DECK



CONTENTS

1. Disassembly and Reassembly

2. Alignment and Adjustment

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AC68-20392A

1. Disassembly and Reassembly

1-1 Deck Parts Locations

1-1-1 Deck (Top View)

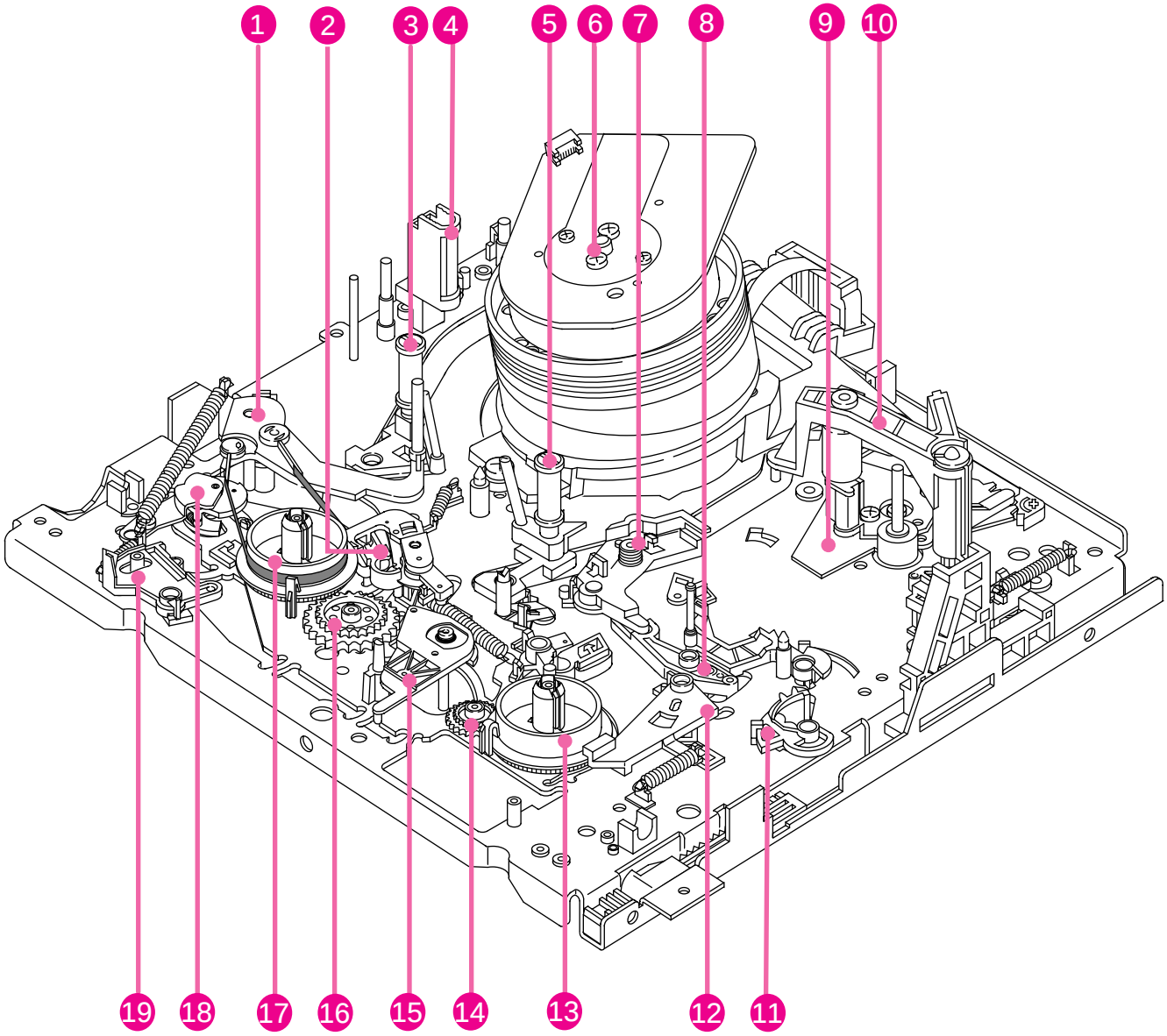


Fig. 1-1 Deck Top Parts Location (DX7-A/DX8-A DECK ONLY)

1. ARM TENSION FULL ASS'Y
2. BRAKE MAIN "L" ASS'Y
3. GUIDE ROLLER ASS'Y "T"
4. FULL ERASE HEAD
5. GUIDE ROLLER ASS'Y "S"
6. CYLINDER ASS'Y
7. LEVER PINCH COMP ASS'Y
8. LEVER PINCH CAM
9. FULL ACE HEAD AAS'Y
10. UNIT PINCH ROLLER ASS'Y
11. LEVER REVIEW
12. BRAKE SUB "R" ASS'Y
13. REEL DISK "R" ASS'Y
14. GEAR RELAY "T" ASS'Y
15. IDLER ASS'Y
16. GEAR RELAY "S" ASS'Y
17. REEL DISK "L" ASS'Y
18. LEVER JOG ASS'Y (DX8-A/AC ONLY)
19. LEVER REC SWITCH

1-1-2 Deck (Top View)

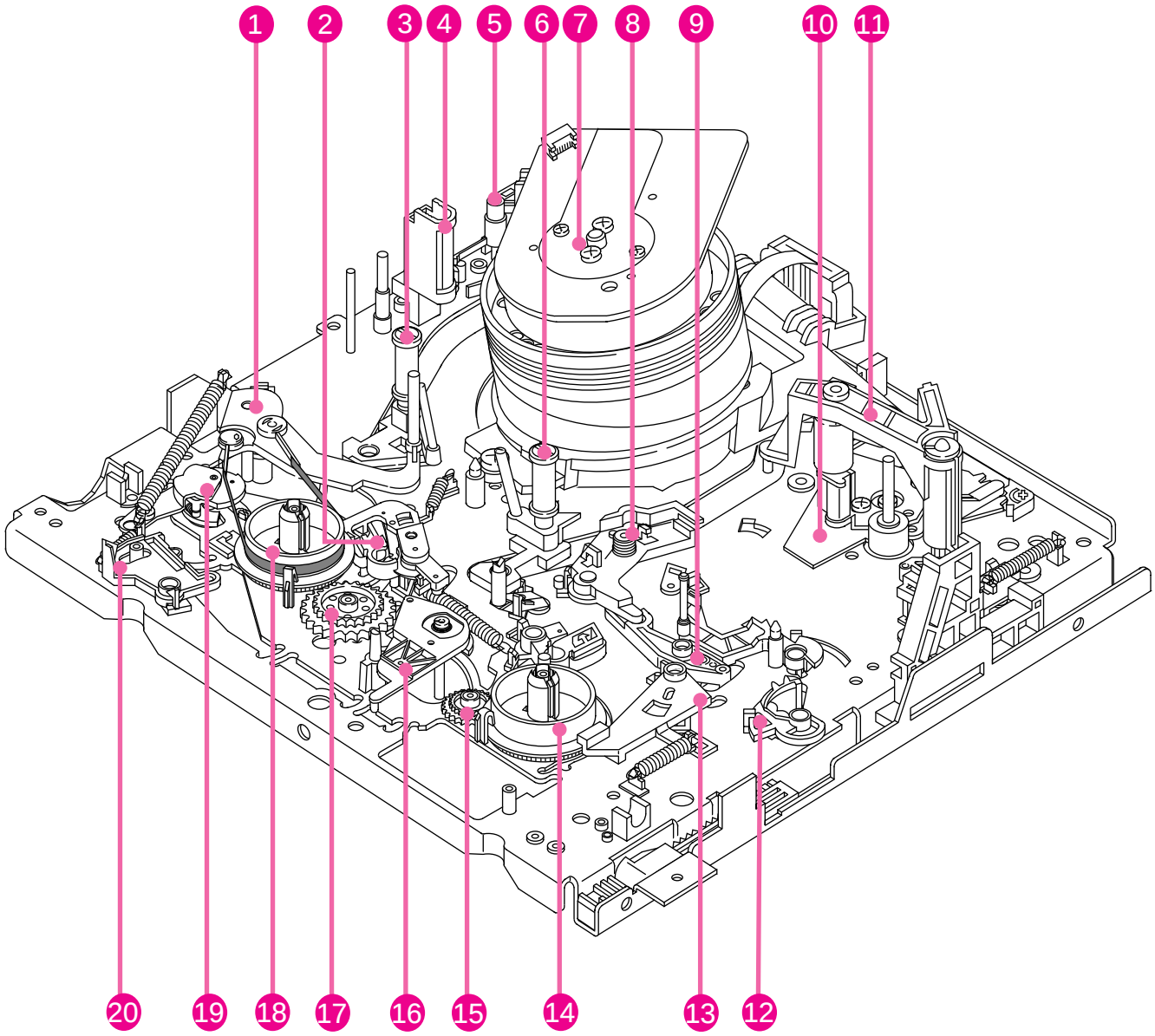


Fig. 1-2 Deck Top Parts Location (DX7-AC/DX8-AC DECK ONLY)

1. ARM TENSION FULL ASS'Y
2. BRAKE MAIN "L" ASS'Y
3. GUIDE ROLLER ASS'Y "T"
4. FULL ERASE HEAD
5. HEAD CLEANER ASS'Y (DX7-AC/DX8-AC ONLY)
6. GUIDE ROLLER ASS'Y "S"
7. CYLINDER ASS'Y
8. LEVER PINCH COMP ASS'Y
9. LEVER PINCH CAM
10. FULL ACE HEAD AAS'Y
11. UNIT PINCH ROLLER ASS'Y
12. LEVER REVIEW
13. BRAKE SUB "R" ASS'Y
14. REEL DISK "R" ASS'Y
15. GEAR RELAY "T" ASS'Y
16. IDLER ASS'Y
17. GEAR RELAY "S" ASS'Y
18. REEL DISK "L" ASS'Y
19. LEVER JOG ASS'Y (DX8-A/AC ONLY)
20. LEVER REC SWITCH

1-1-3 Deck (Bottom View)

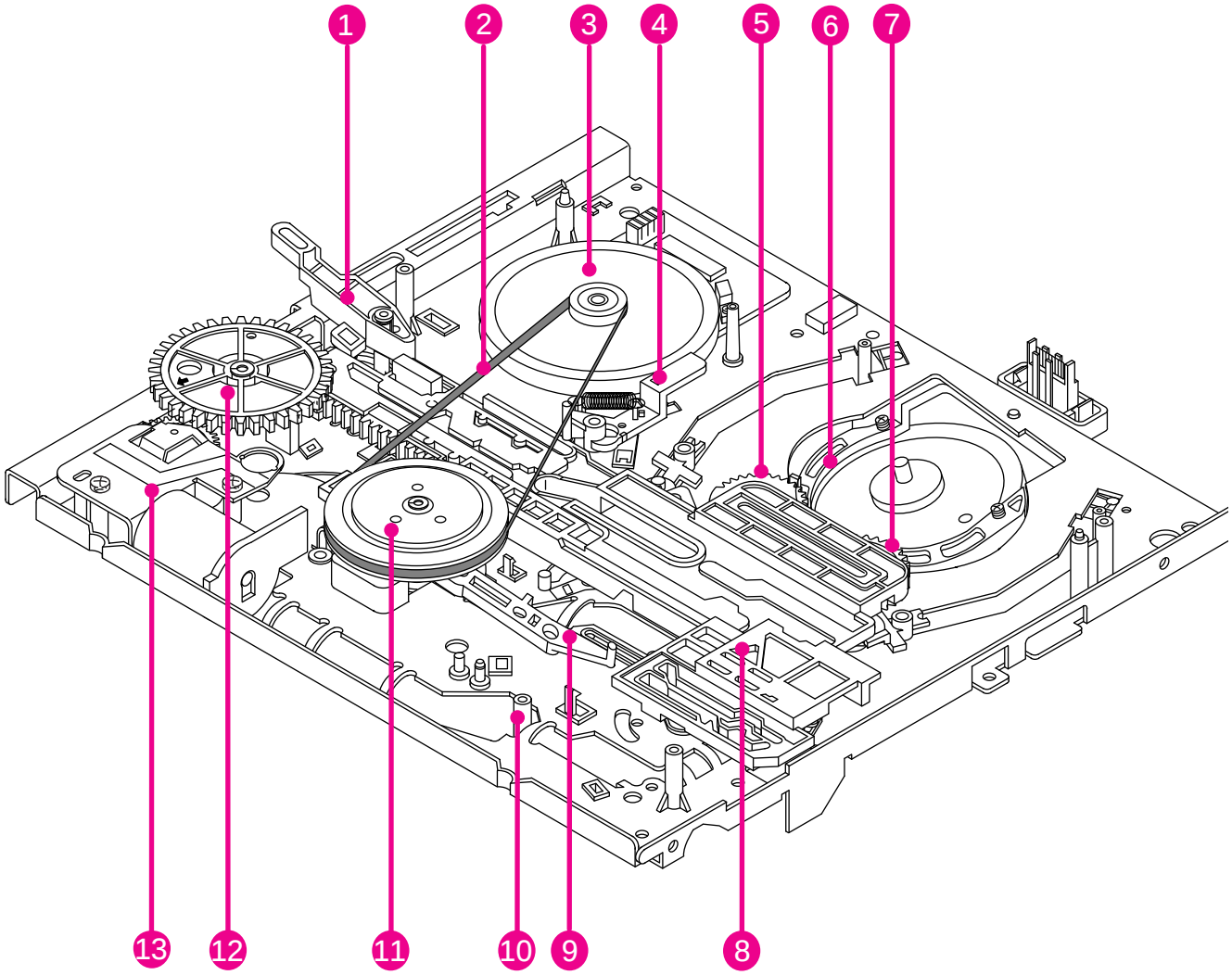


Fig. 1-3 Deck Bottom Parts Location

1. LEVER SLIDE PINCH
2. BELT CAPSTAN
3. MOTOR D.D CAPSTAN
4. BRAKE CAPSTAN ASS'Y
5. GEAR LOADING "R" ASS'Y
6. MOTOR CYLINDER
7. GEAR LOADING "L" ASS'Y
8. SLIDE MAIN
9. LEVER REC SWITCH
10. LEVER IDLER CHANGE
11. CLUTCH ASS'Y
12. UNIT LOADING
13. GEAR MASTER

1-1-4 Housing

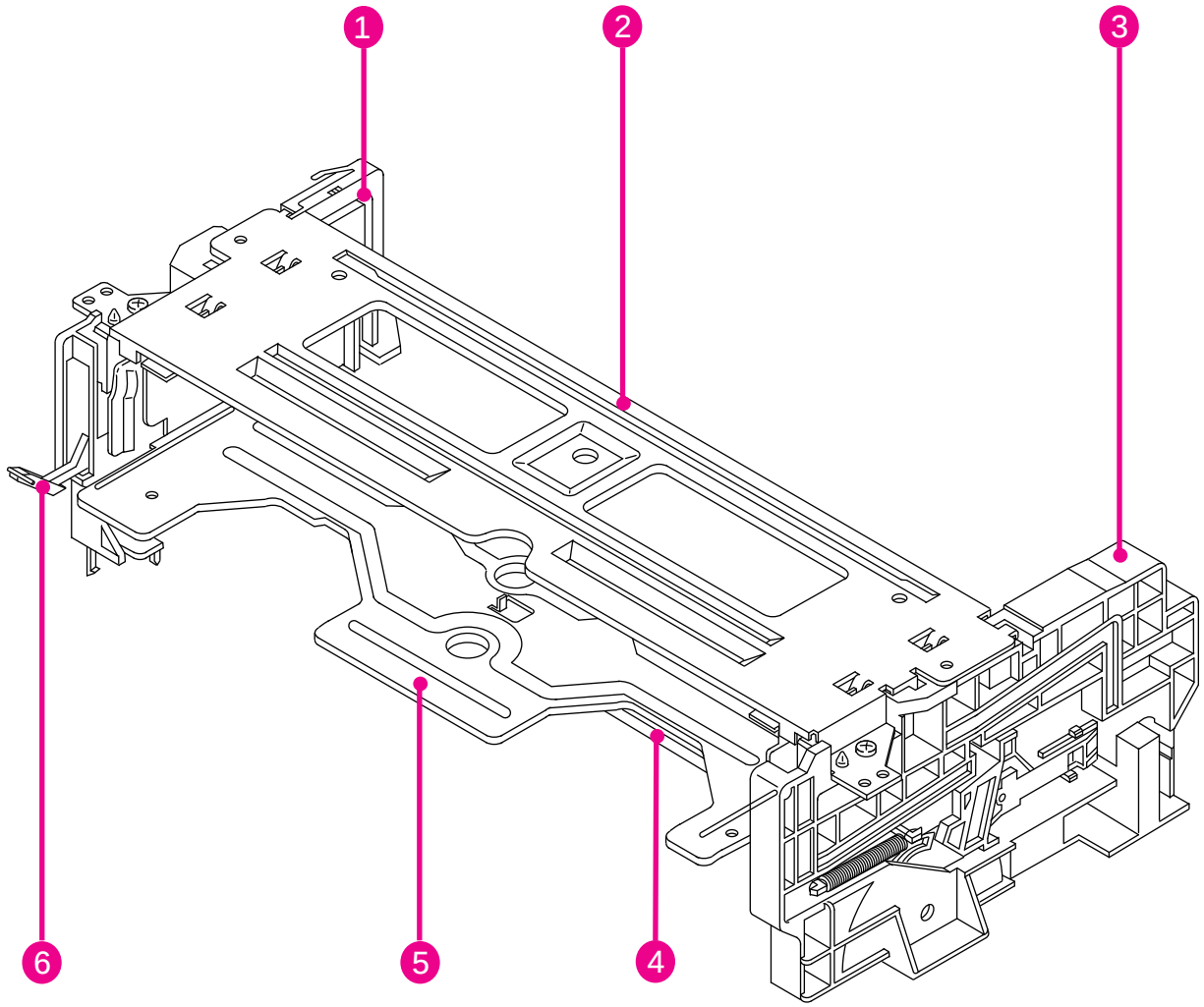


Fig. 1-4 Housing Parts Location

1. CHASSIS SIDE “L” ASS’Y
2. UPPER CHASSIS
3. CHASSIS SIDE “R” ASS’Y
4. SHAFT ARM ASS’Y
5. HOLDER CASSETTE ASS’Y
6. LEVER DOOR

1-2 Housing Assembly

1-2-1 Removal from Main Base

1. Remove 3 Screws ①.
2. Lift the Housing Ass'y in the direction of arrow "B", while pushing the tab ② in the direction of arrow "A". (Refer to detail drawing)

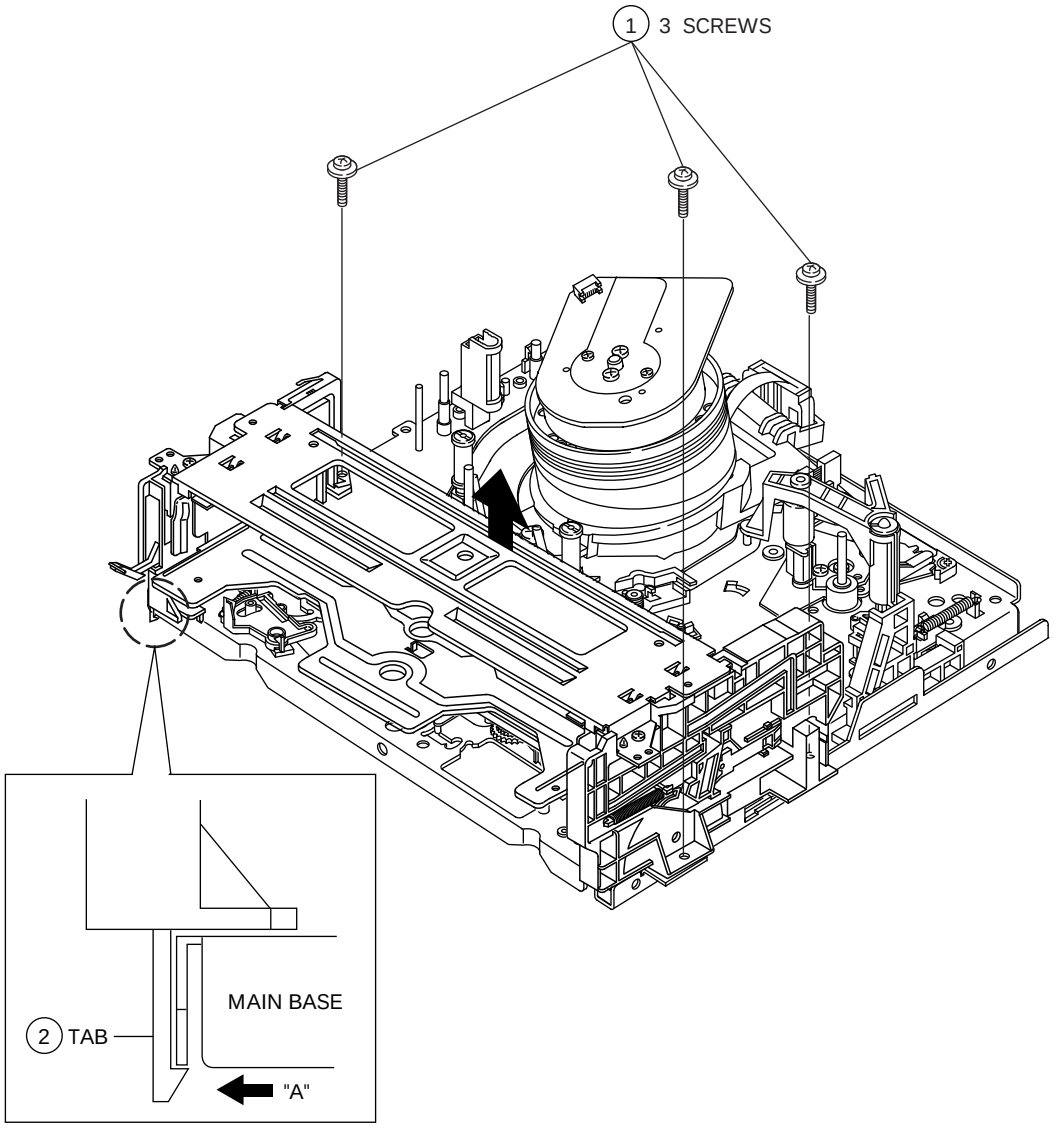


Fig. 1-5 Housing Ass'y Removal from Main Base

1-2-2 Diassembly

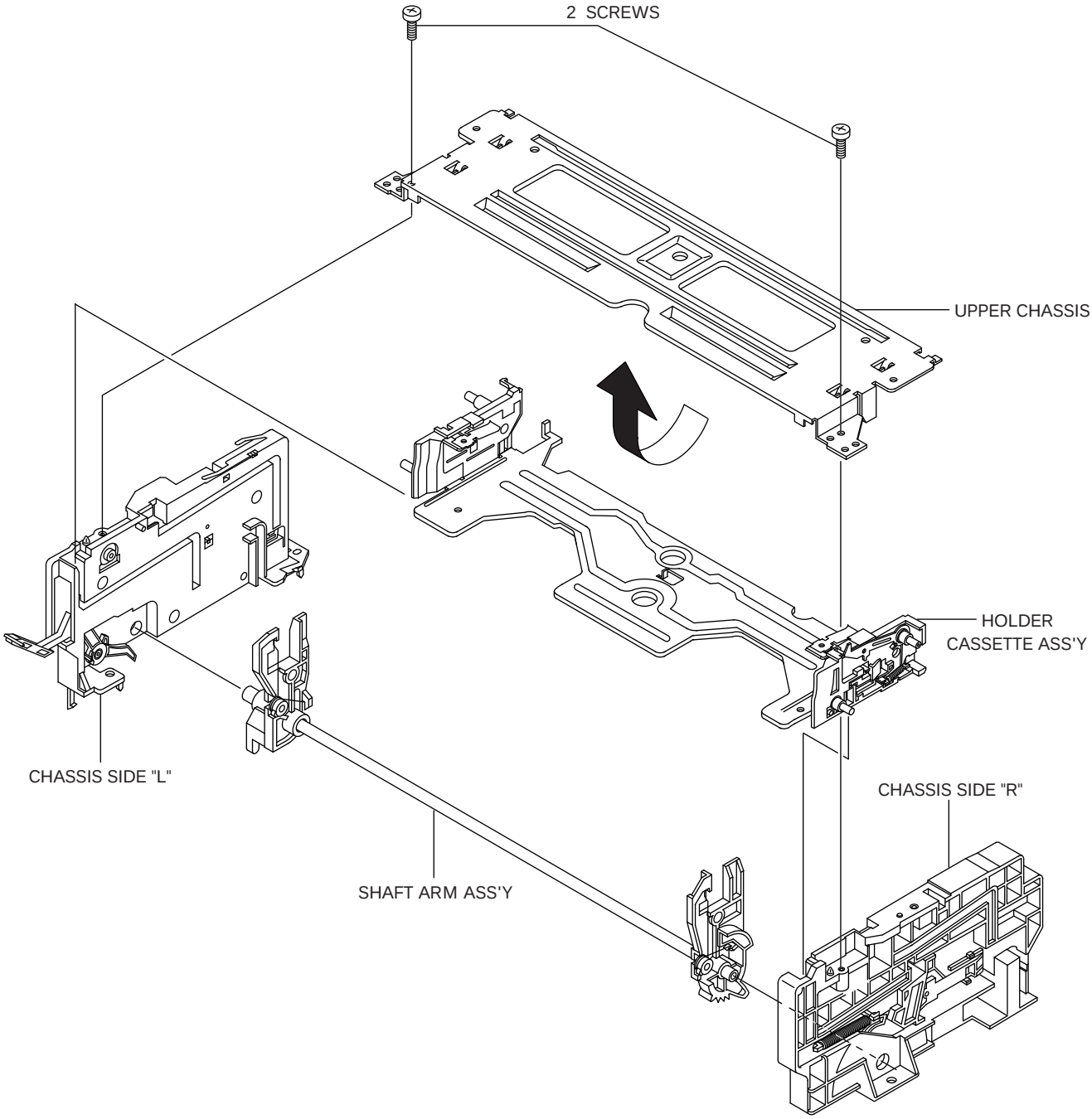


Fig. 1-6 Housing Ass'y Removal

1-2-3 Upper Chassis Removal

1. Remove 2 Screws ①.
2. Lift the Upper Chassis ② in the direction of arrow "A".

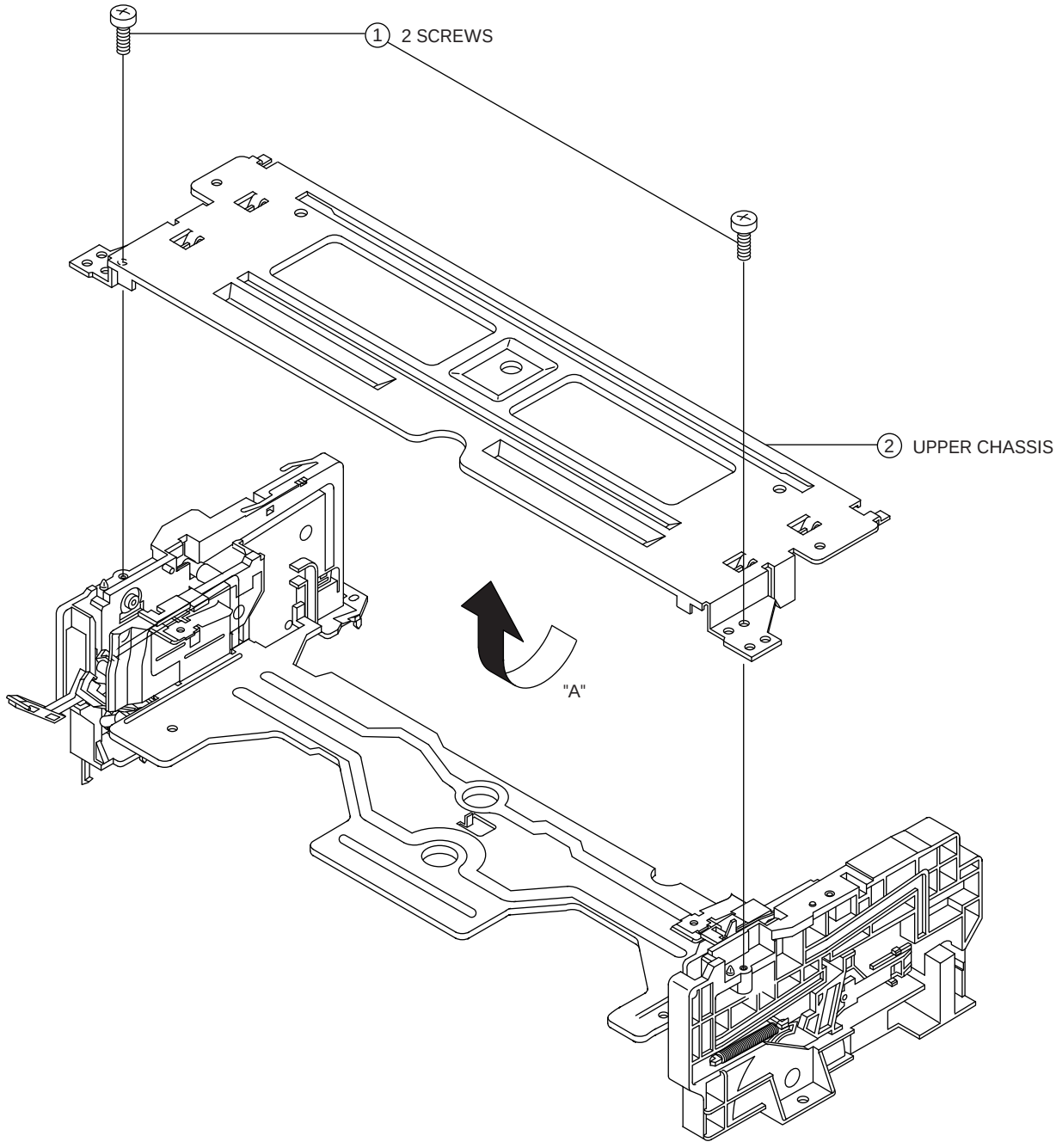


Fig. 1-7 Upper Chassis Removal

1-2-4 Holder Cassette Ass'y and Chassis Side L/R Removal

1. Lift the Cassette Holder ① in the direction of arrow "A" (Refer to Fig. A).
2. Remove the Side Chassis "L" ② and "R" ③ from Arm Shaft Ass'y ④ in the direction of arrow "B", "C" (Refer to Fig. B).

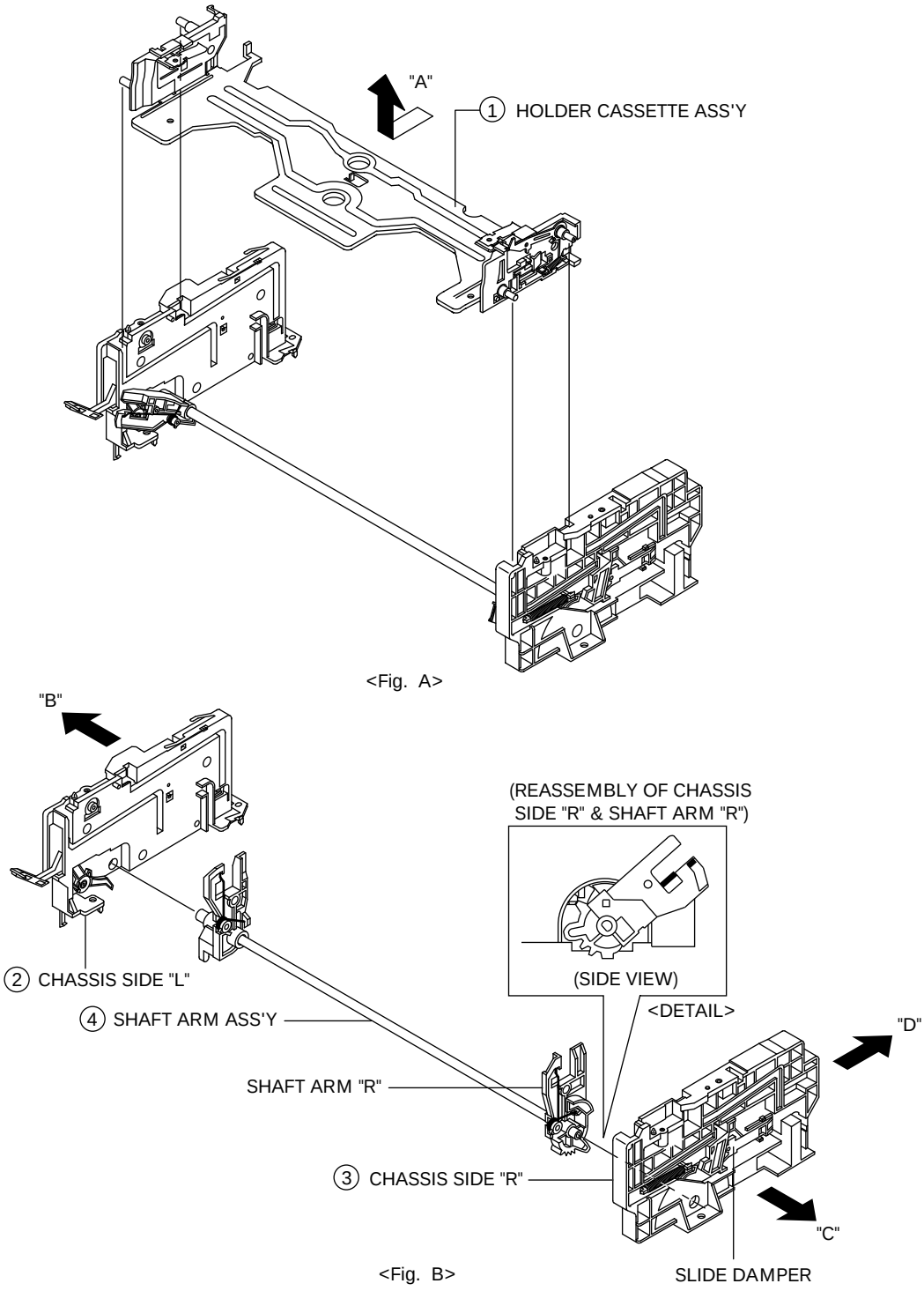


Fig. 1-8 Holder Cassette Ass'y and Chassis Side L/R

1-2-5 Chassis Side “R” Parts Locations

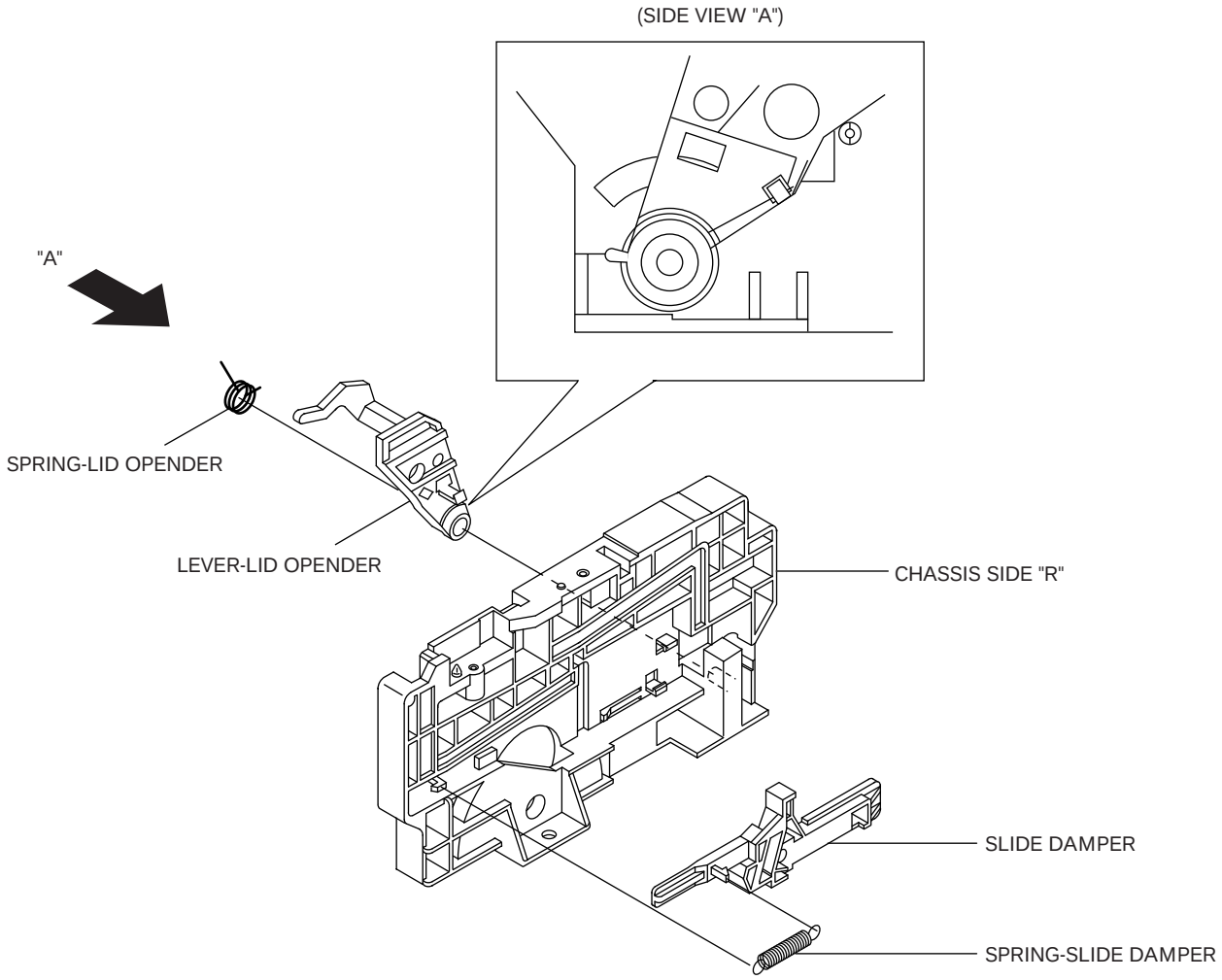


Fig. 1-9 Chassis Side “R” Parts Locations

Note : If you operate the deck when the Cassette Ass’y Holder is removed, the Arm Shaft “R” and the Damper Slide are not returned to their original positions. If this happens by accident, push the Damper Slide of Side Chassis “R” in the direction of arrow “D”, and return the Damper Slide in the reverse direction of arrow “D” when the Arm Shaft Ass’y is in eject mode.

1-2-6 Slide Damper Removal

1. Remove the Slide Damper Spring ①.
2. Push the Stopper ③ of the Side Chassis "R" ④. Move the Damper Slide ② in the direction of arrow.
3. Align the Damper Slide ② with the chassis side tab (as shown detail drawing).

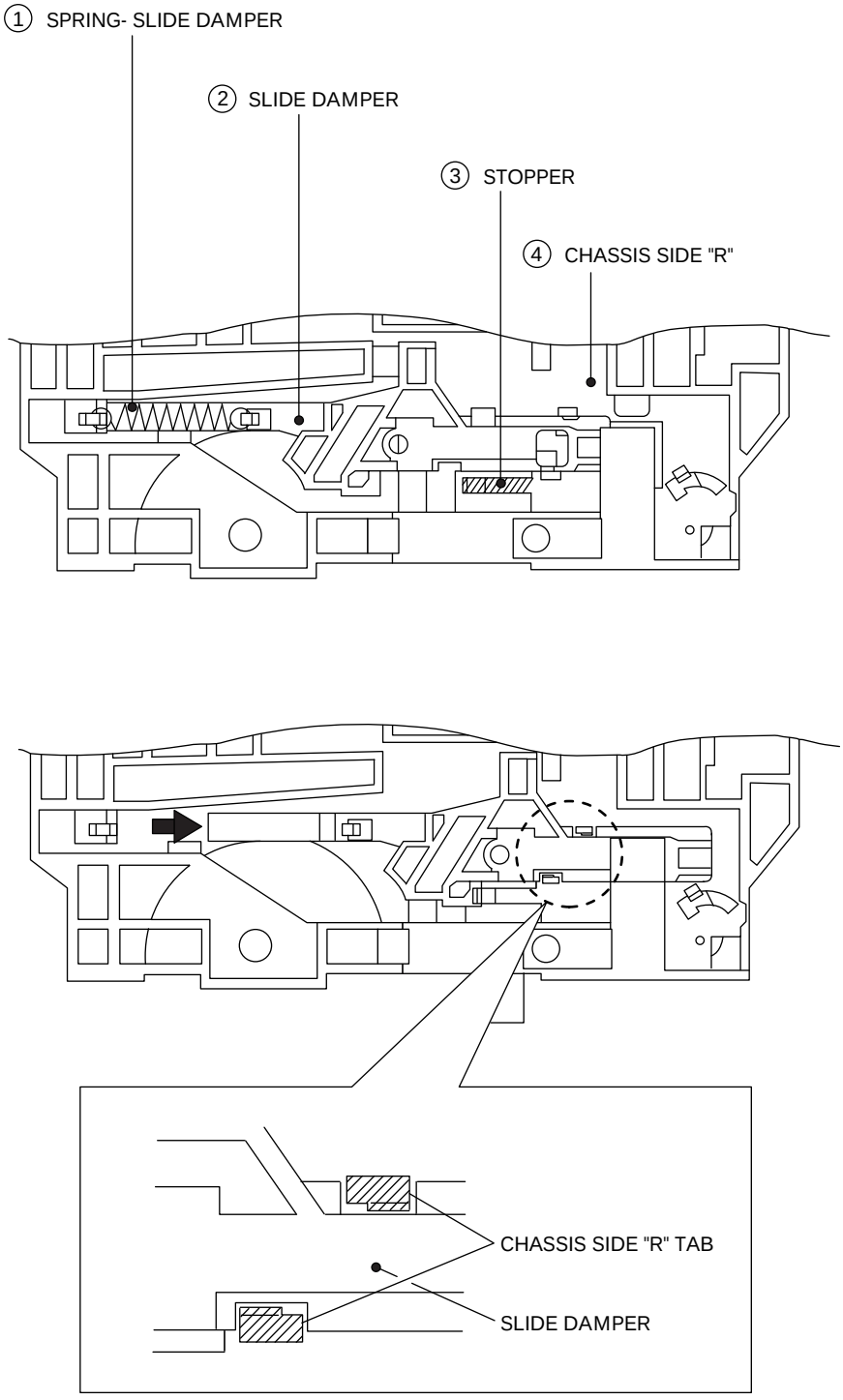


Fig. 1-10 Slide Damper Removal

1-3 Cylinder Ass'y

1-3-1 Exploded View of Cylinder Ass'y

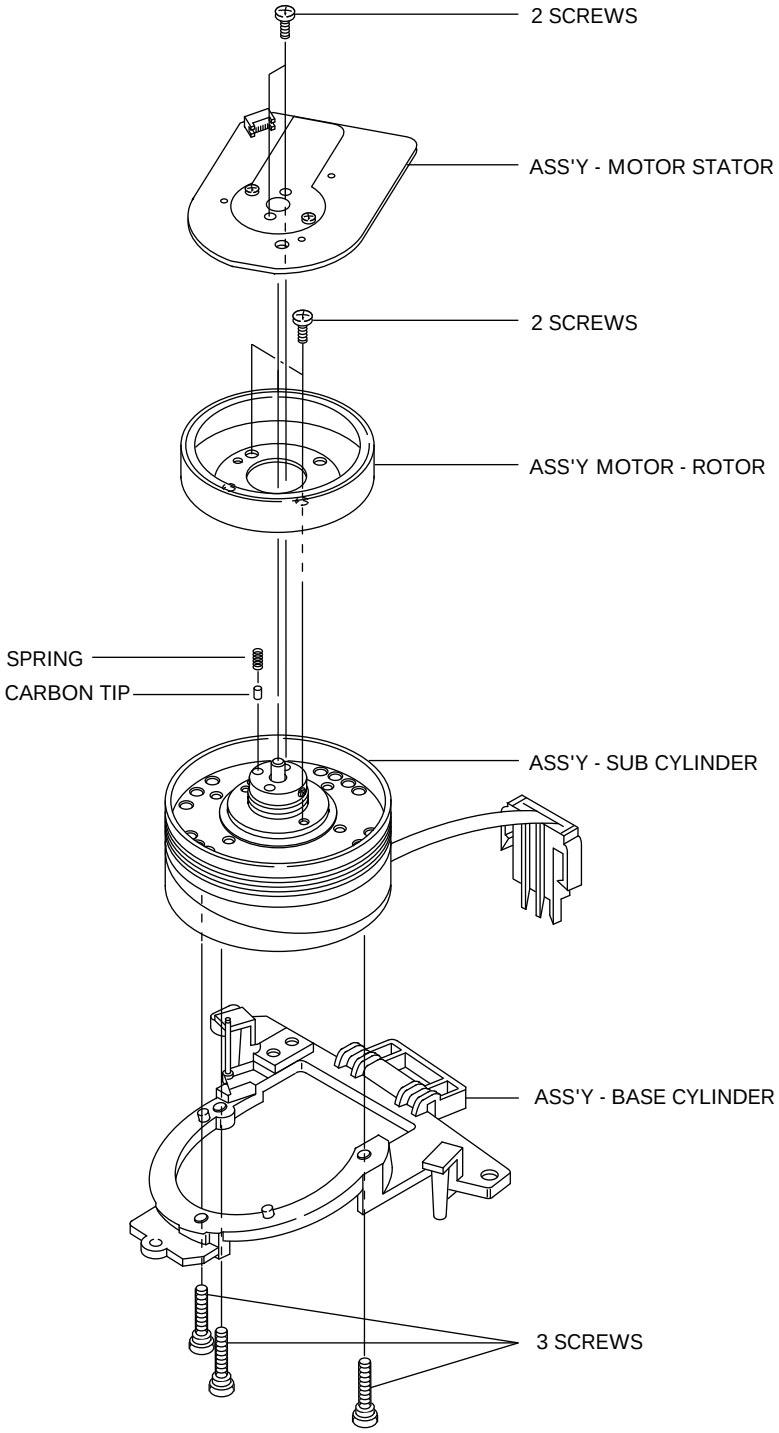


Fig. 1-11 Expleded View of Cylinder Ass'y

1-3-2 Stopper Tape Removal (Only for Deck : DX7-A/DX8-A)

1. Release 1 tab ① in the direction of arrow "A". (Refer to detail drawing)
2. Lift the Tape Stopper ② in the direction of arrow "B".

Note: Stopper tape has deleted from JAN.1998

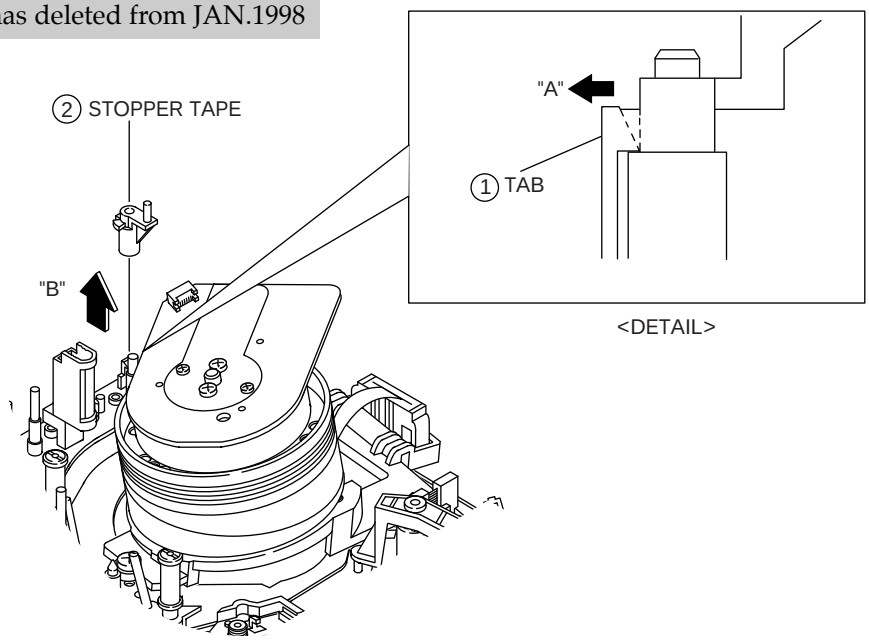


Fig. 1-12 Stopper Tape Removal

1-3-3 Head Cleaner Ass'y Removal (Only for Deck : DX7-AC/DX8-AC)

1. Release 1 tab ① in the direction of arrow "A". (Refer to detail drawing)
2. Lift the Head Cleaner ② in the direction of arrow "B".

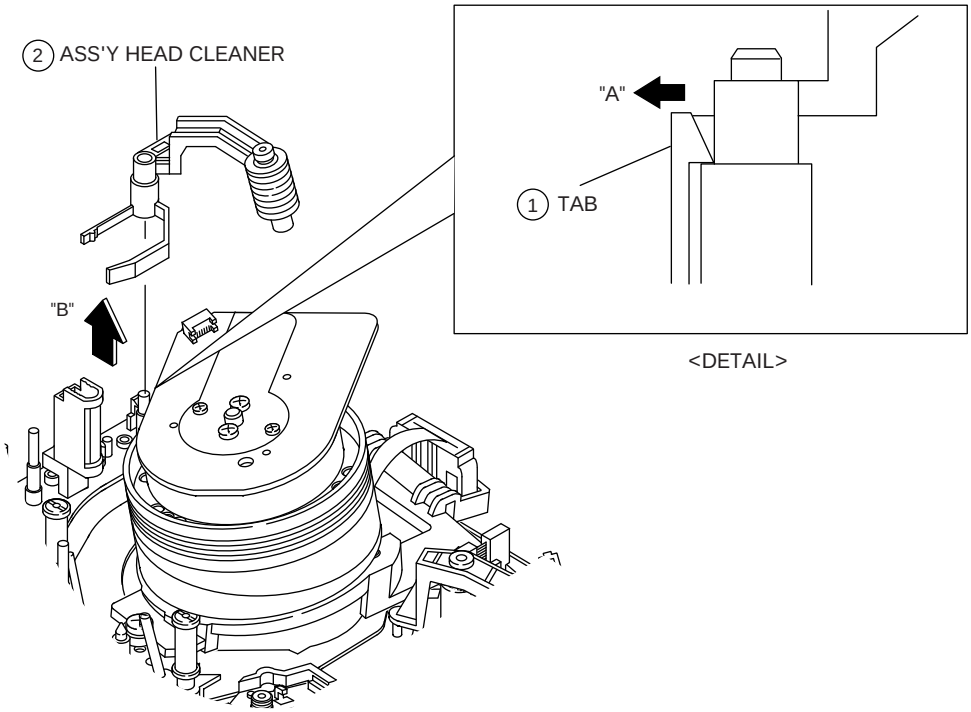


Fig. 1-13 Head Cleaner Ass'y Removal

1-3-4 Cylinder Ass'y Removal from Main Base

1. Remove 3 Screws ① holding the Main Base and the Cylinder Ass'y.
2. Lift the Cylinder Ass'y ② in the direction of arrow.

Note : Do not touch the video heads during removal or installation.

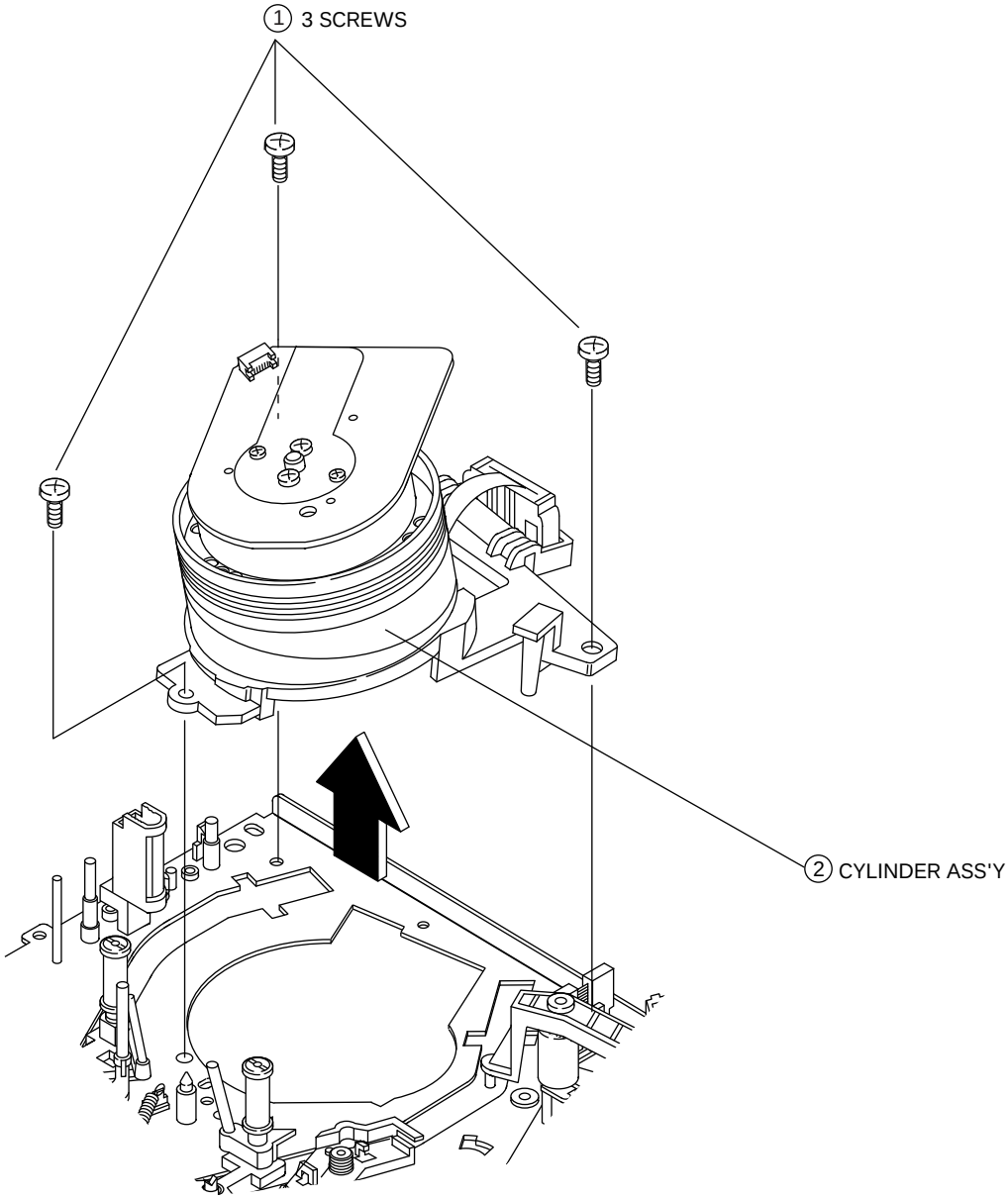


Fig. 1-14 Cylinder Ass'y Removal from Main Base

1-3-5 Holder FPC Removal

1. Release the Holder FPC tab holding the Cylinder Base ② in the direction of arrow. (Refer to detail drawing)
2. Disconnect the Holder FPC ① from the Cylinder Base ②.

Note : When disconnecting the FPC Holder ① from the Cylinder Base ② :
Take care not to disconnect the FPC cable from the FPC Holder (The FPC cable is very short).

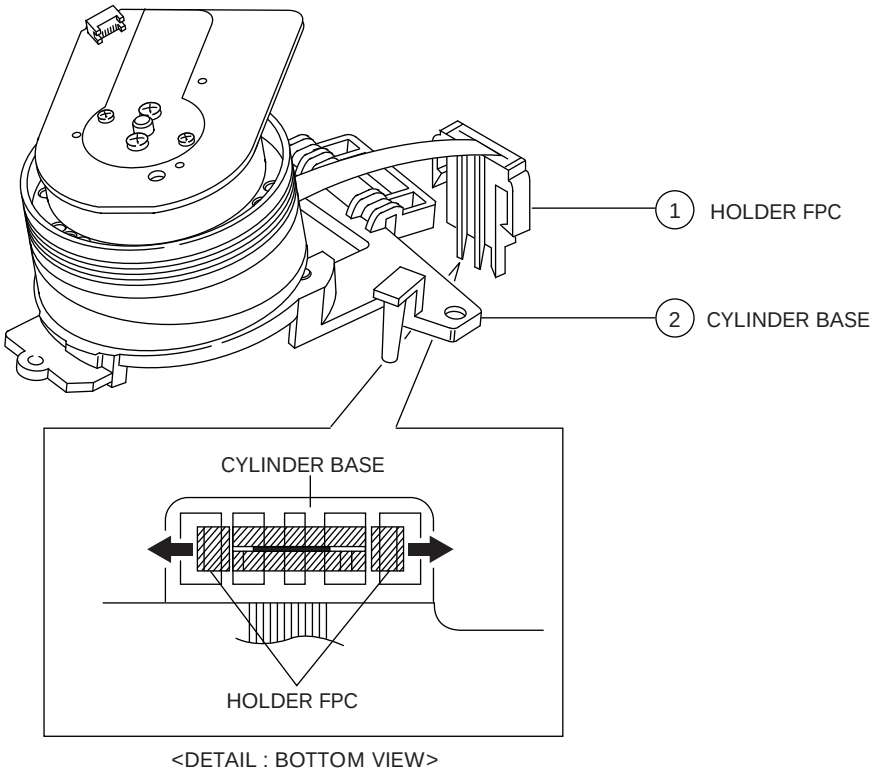


Fig. 1-15 Head Brush and Holder FPC Removal

1-3-6 Cylinder Ass'y Removal from Cylinder Base

1. Remove 3 Screws ① from the Cylinder Base ②.
2. Lift the Cylinder Ass'y ③ from the Cylinder Base ② in the direction of arrow.

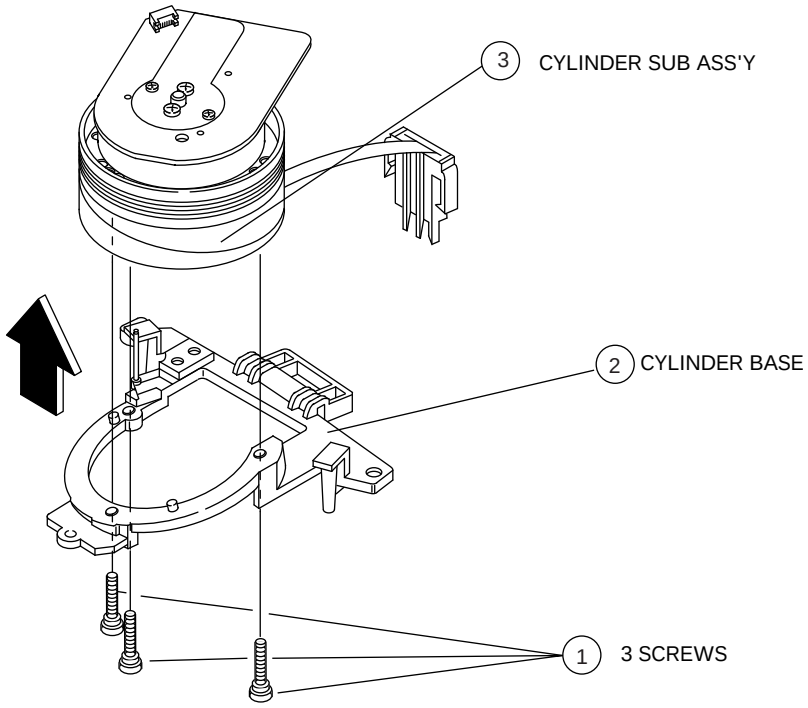


Fig. 1-16 Cylinder Ass'y Removal from Cylinder Base

1-3-7 Motor Stator Removal

1. Remove 2 Screws ①.
2. Remove the Motor Stator ② from the Cylinder Sub Ass'y ⑤.

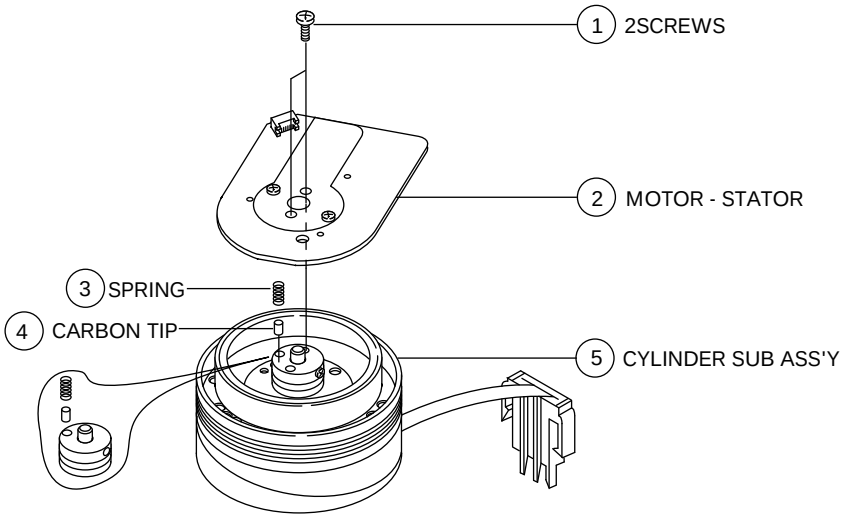


Fig. 1-17 Motor Stator Removal

Note : When disassembling the Motor-Stator, take extreme care not to loose the carbon-tip and spring.

1-3-8 Motor Rotor Removal

1. Remove 2 Screws ①.
2. Lift The Motor Rotor②.

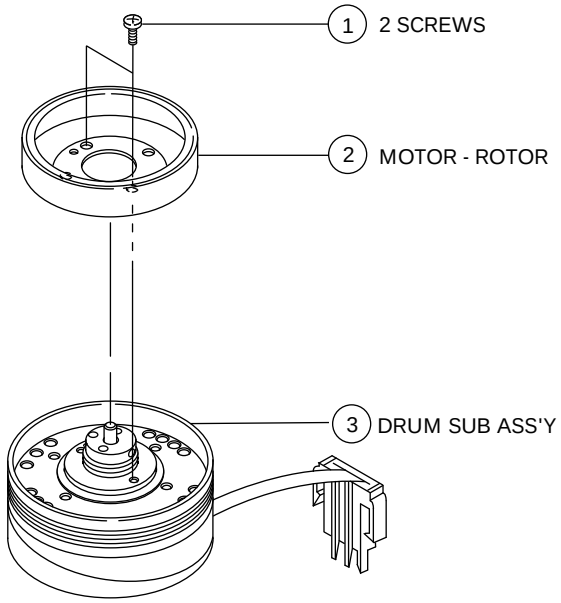


Fig. 1-18 Motor Rotor Removal

1-3-9 Motor Rotor and Cylinder Sub Ass'y

1. Make sure that phase matching holes of the Motor Rotor and the Cylinder Sub Ass'y are aligned correctly as shown in Fig. 1-19 (Refer to phase matching hole).
2. Secure with 2 Screws.

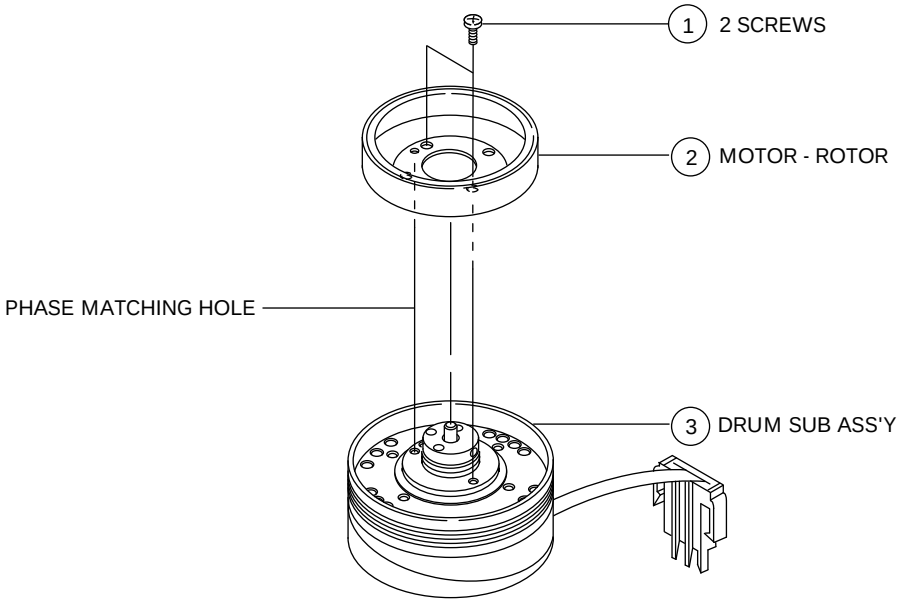


Fig. 1-19 Assembly of Motor Rotor and Cylinder Sub Ass'y

1-3-10 Motor Stator and Cylinder Sub Ass'y

1. Reinstall the Motor Stator ① toward the FPC cable of Cylinder Sub Ass'y ②.
2. Secure 2 Screws. (Refer to Fig. 1-17)

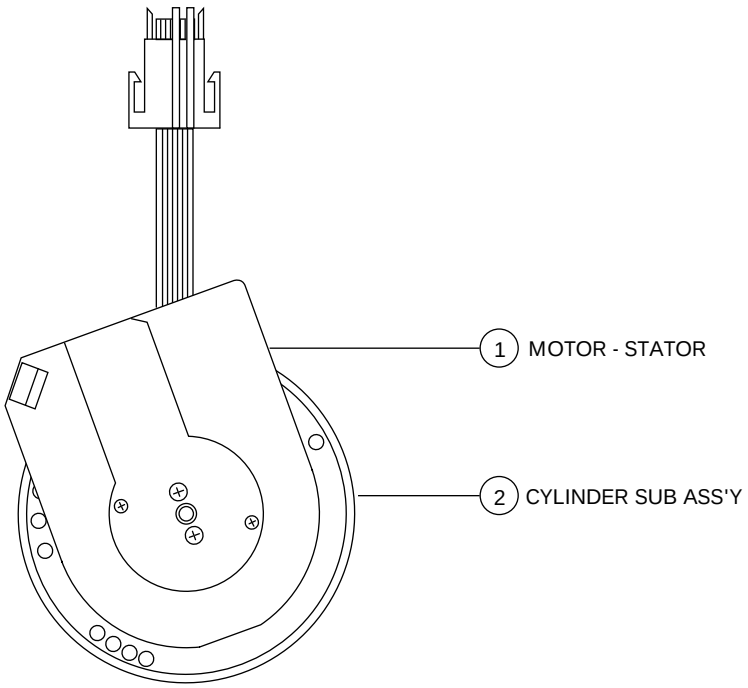


Fig. 1-20 Assembly of Motor Stator and Cylinder Sub Ass'y

1-4 Main Deck Removal and Reassembly

1-4-1 Slide Rack Housing Removal

1. Lift the Slide Rack Housing.

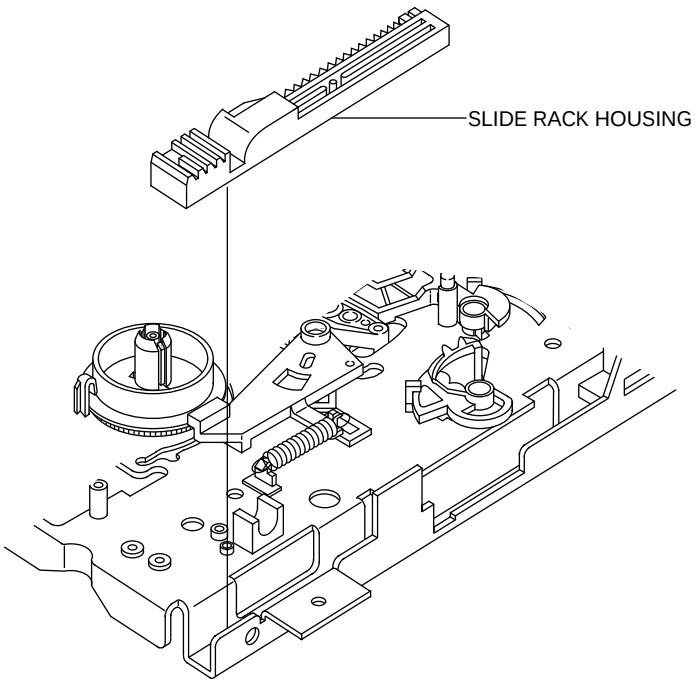


Fig. 1-21 Slide Rack Housing Removal

1-4-2 Assembly of Slide Rack Housing and Gear Master

1. Confirm that the hole of Master Gear ① and the hole "A" of Main Base are aligned correctly. (Eject mode)
2. Align the Slot #1 of Master Gear ① with the Tooth #1 of Rack Housing Slide ②. (Refer to timing point)

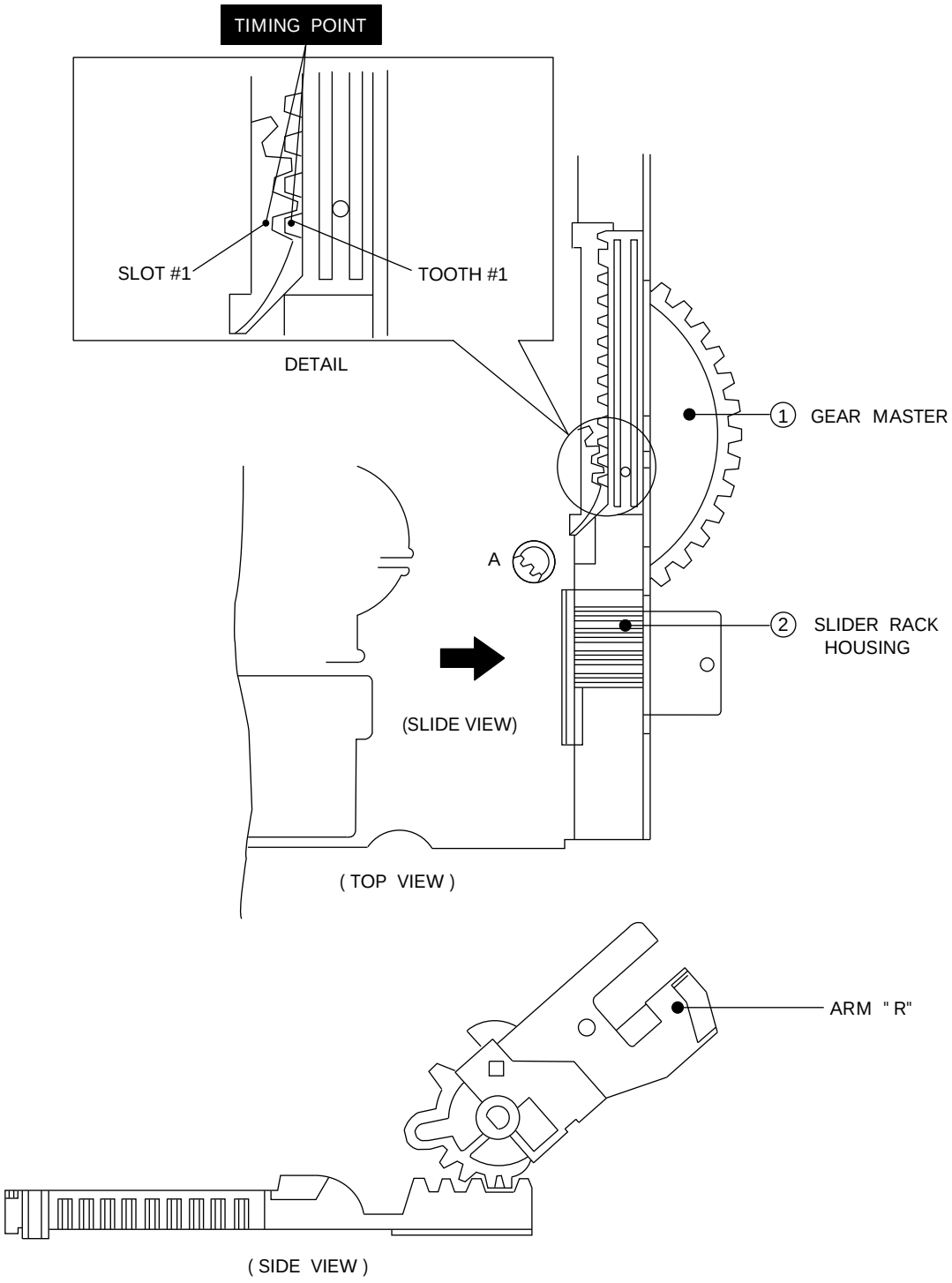
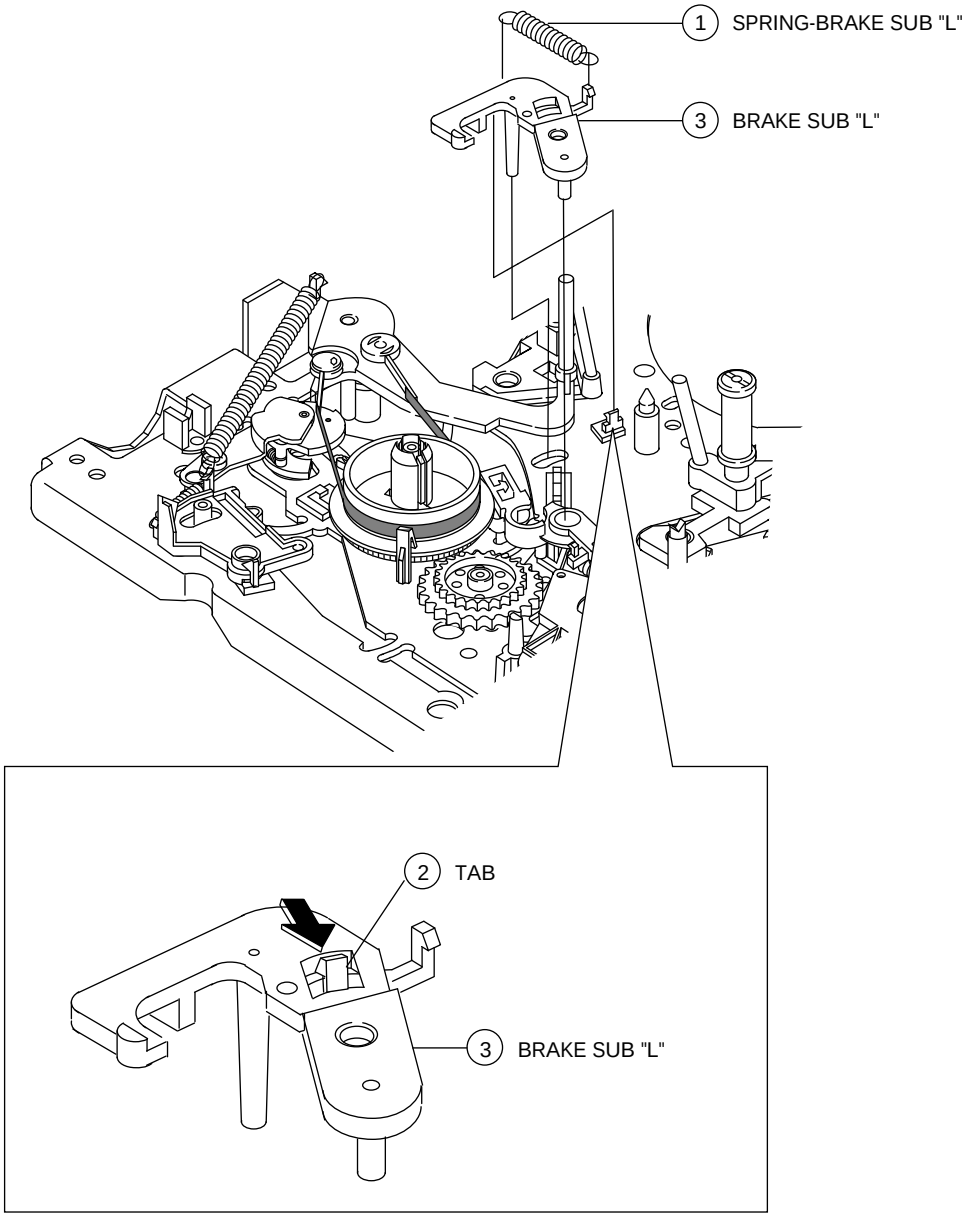


Fig. 1-22 Assembly of Slide Rack Housing and Gear Master

1-4-3 Brake Sub “L” Removal

1. Remove the Sub “L” Brake Spring ①.
2. Release the tab ② in the direction of arrow. (Refer to detail drawing)
3. Lift the Sub “L” Brake ③.

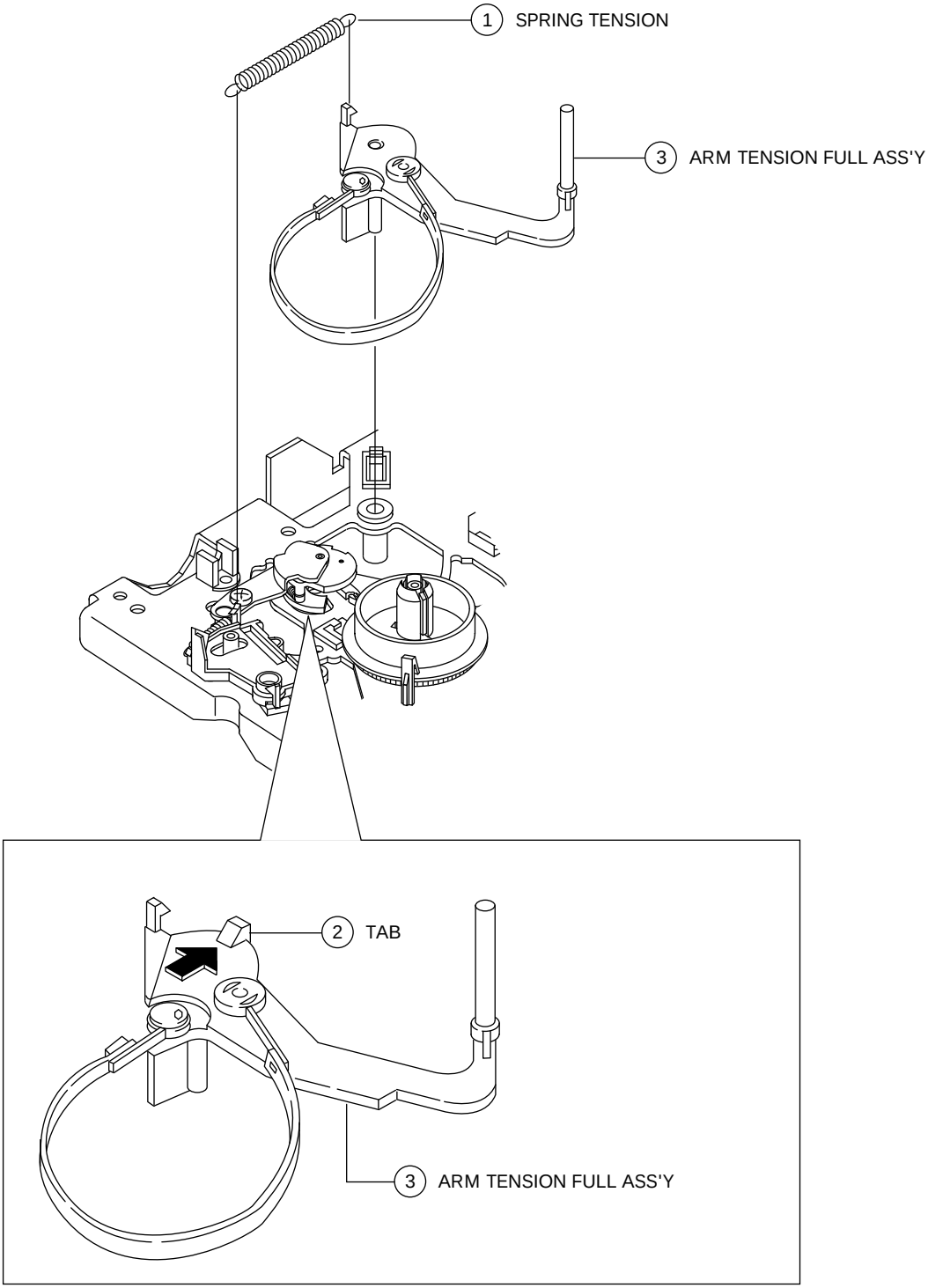


<DETAIL>

Fig. 1-23 Brake Sub “L” Removal

1-4-4 Arm Tension Full Ass'y Removal

1. Remove the Tension Spring ①.
2. Release the tab ② in the direction of arrow. (Refer to detail drawing)
3. Lift the Full Tension Arm Ass'y ③.

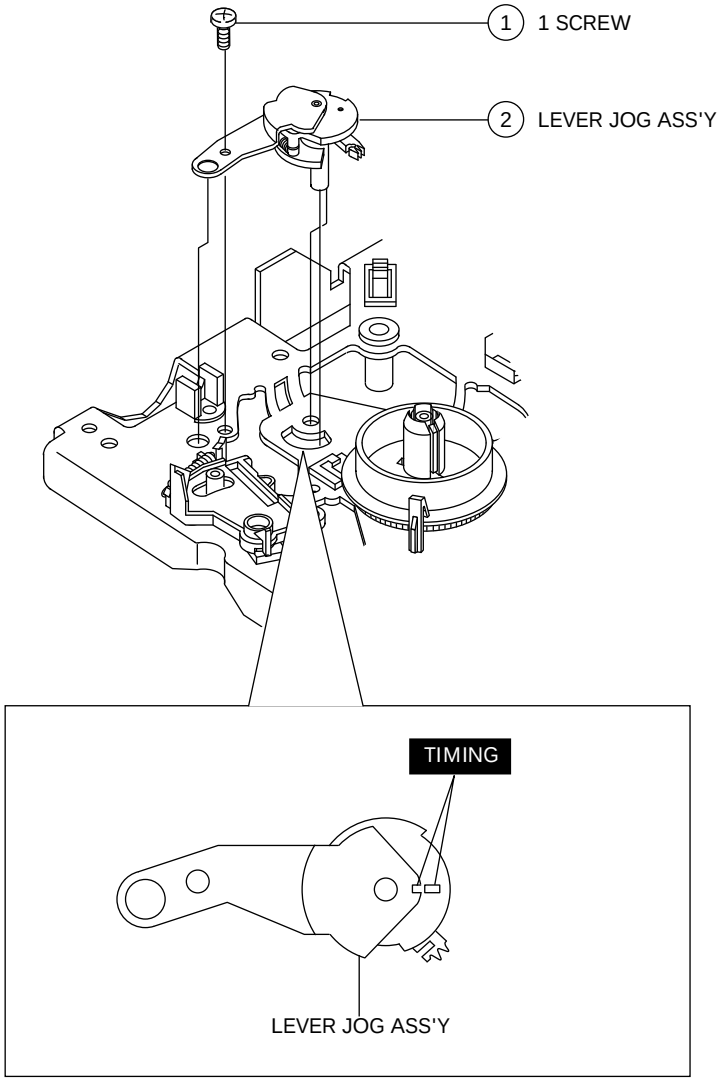


<DETAIL>

Fig. 1-24 Arm Tension Full Ass'y Removal

1-4-5 Lever JOG Ass'y Removal (Only for deck : DX8-A/DX8-AC)

1. Remove the 1 Screw ①.
2. Lift the JOG Lever Ass'y ②.



<TOP VIEW>

Fig. 1-25 Lever JOG Ass'y Removal

1-4-6 Reel Disk “L” and Gear Relay “S” Ass’y Removal

1. Release the tab ① in the direction of arrow. (Refer to detail drawing)
2. Lift the Reel Disk “L” ②.
3. Remove the Plain Washer ③.
4. Remove the Slit Washer ④.
5. Lift the Relay “S” Gear Ass’y ⑤.

Note : When reinstalling, be sure to install the Reel Disk “L” ② after installing the Plain Washer ③.

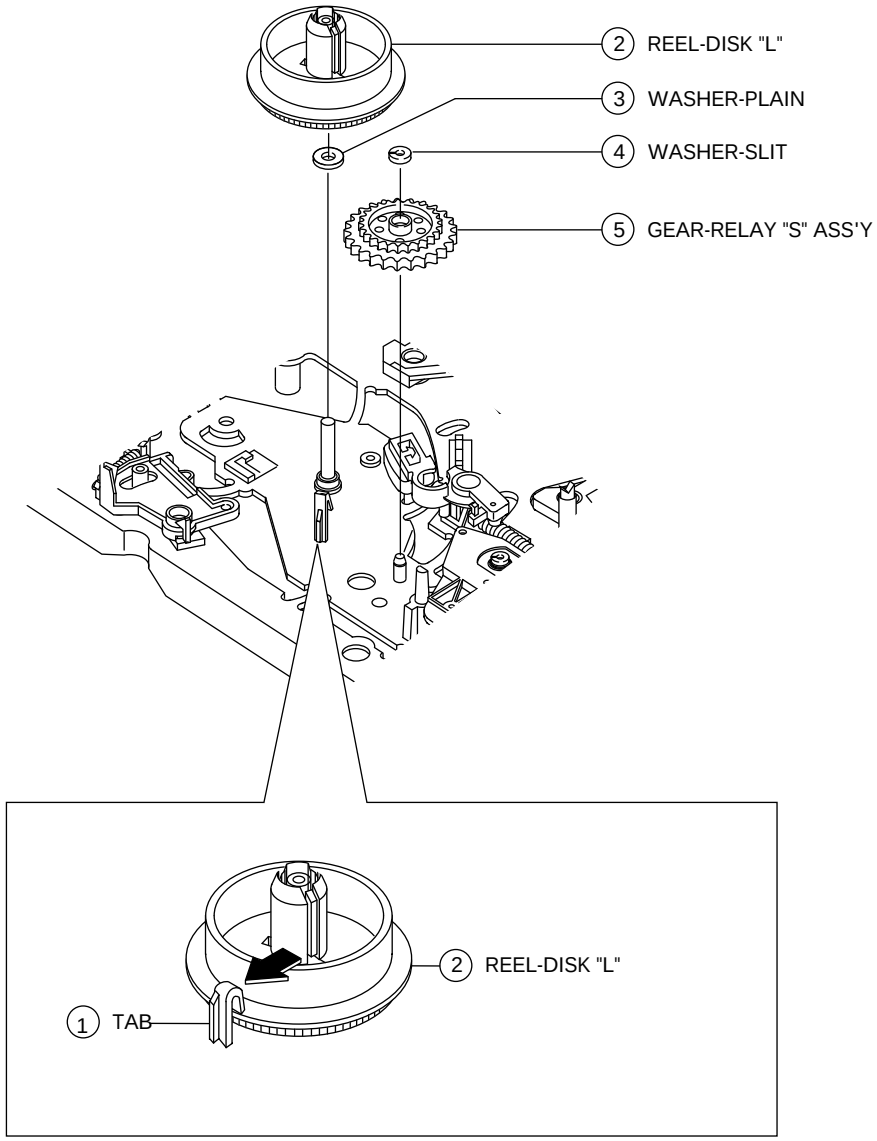
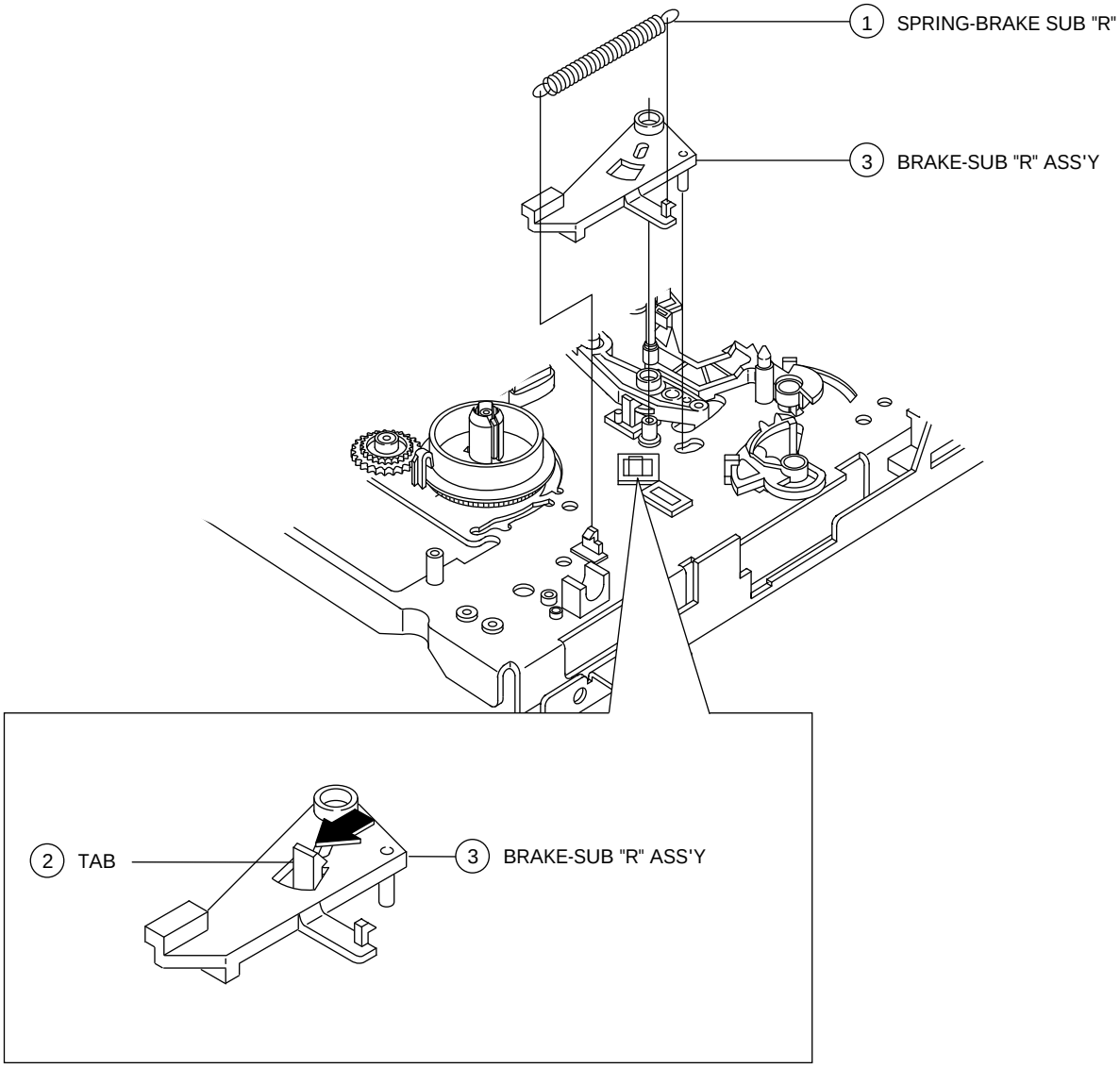


Fig. 1-26 Reel Disk “L” and Gear Relay “S” Ass’y Removal

1-4-7 Brake Sub “R” Ass’y Removal

1. Remove the Sub “R” Brake Spring ①.
2. Release the tab ② in the direction of arrow. (Refer to detail drawing)
3. Lift the Brake Sub “R” Ass’y ③.



<DETAIL>

Fig. 1-27 Brake Sub “R” Ass’y Removal

1-4-8 Reel Disk “R” Ass’y and Gear Relay “T” Removal

1. Release the tab ① in the direction of arrow. (Refer to detail drawing)
2. Lift the Reel Disk “R” Ass’y ②.
3. Remove the Plain Washer ③.
4. Remove the Slit Washer ④.
5. Lift the Relay “T” Gear Ass’y ⑤.

Note : When reinstalling, be sure to install the Reel Disk “R” Ass’y ② after installing the Plain Washer ③.

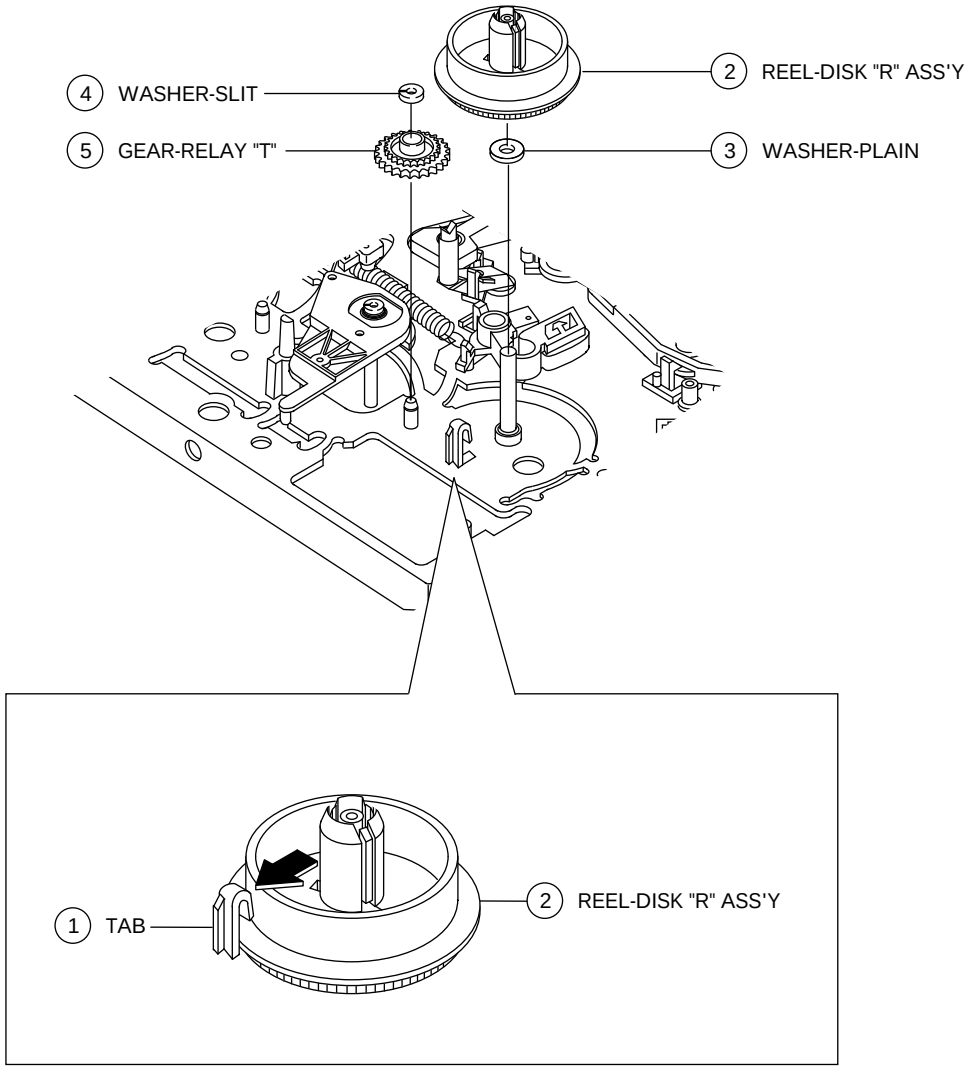


Fig. 1-28 Reel Disk “R” Ass’y and Gear Relay “T” Removal

1-4-9 Brake Main “L”, “R” Ass’y Removal

1. Release the Main Brake Spring ①.
2. Release the tab ② in the direction of arrow “A”. (Refer to detail drawing A)
3. Lift the Brake Main “L” ③.
4. Release the tab ④ in the direction of arrow “B”. (Refer to detail drawing B)
5. Lift the Main “R” Brake ⑤.

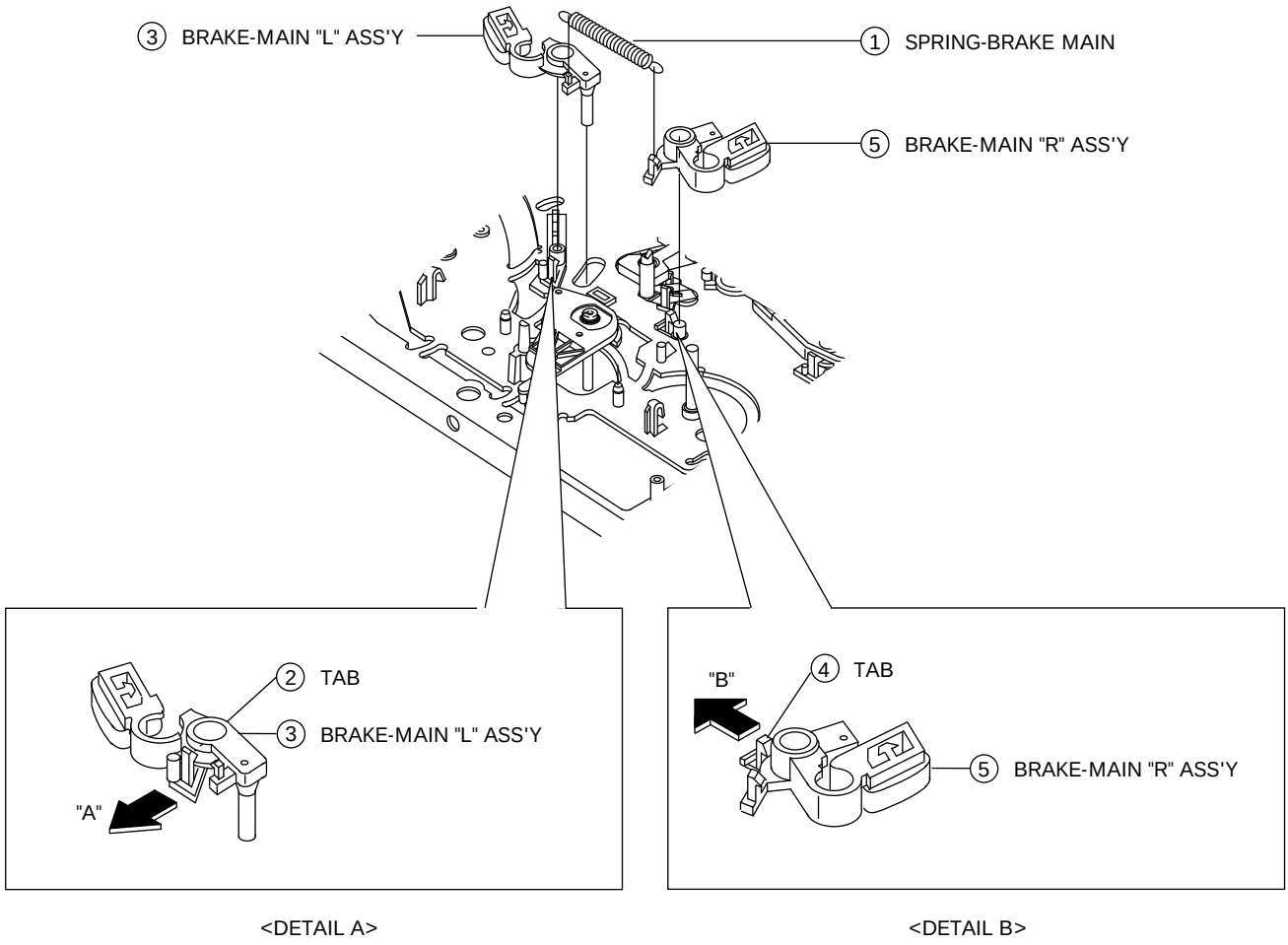


Fig. 1-29 Brake Main “L”, “R” Ass’y Removal

1-4-10 Idler Ass'y Removal

1. Remove the Slit Washer ①.
2. Lift the Idler Ass'y ②.

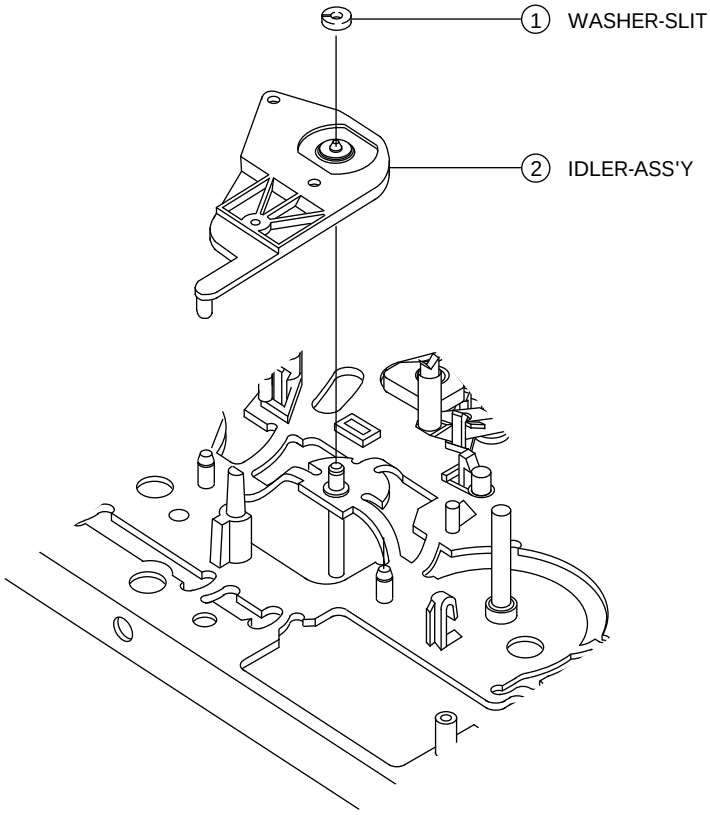


Fig. 1-30 Idler Ass'y Removal

1-4-11 Unit Pinch Roller Ass'y Removal

1. Remove the Slit Washer ①.
2. Lift the Pinch Roller Unit ②.
3. Lift the Arm Pinch Spring ③.

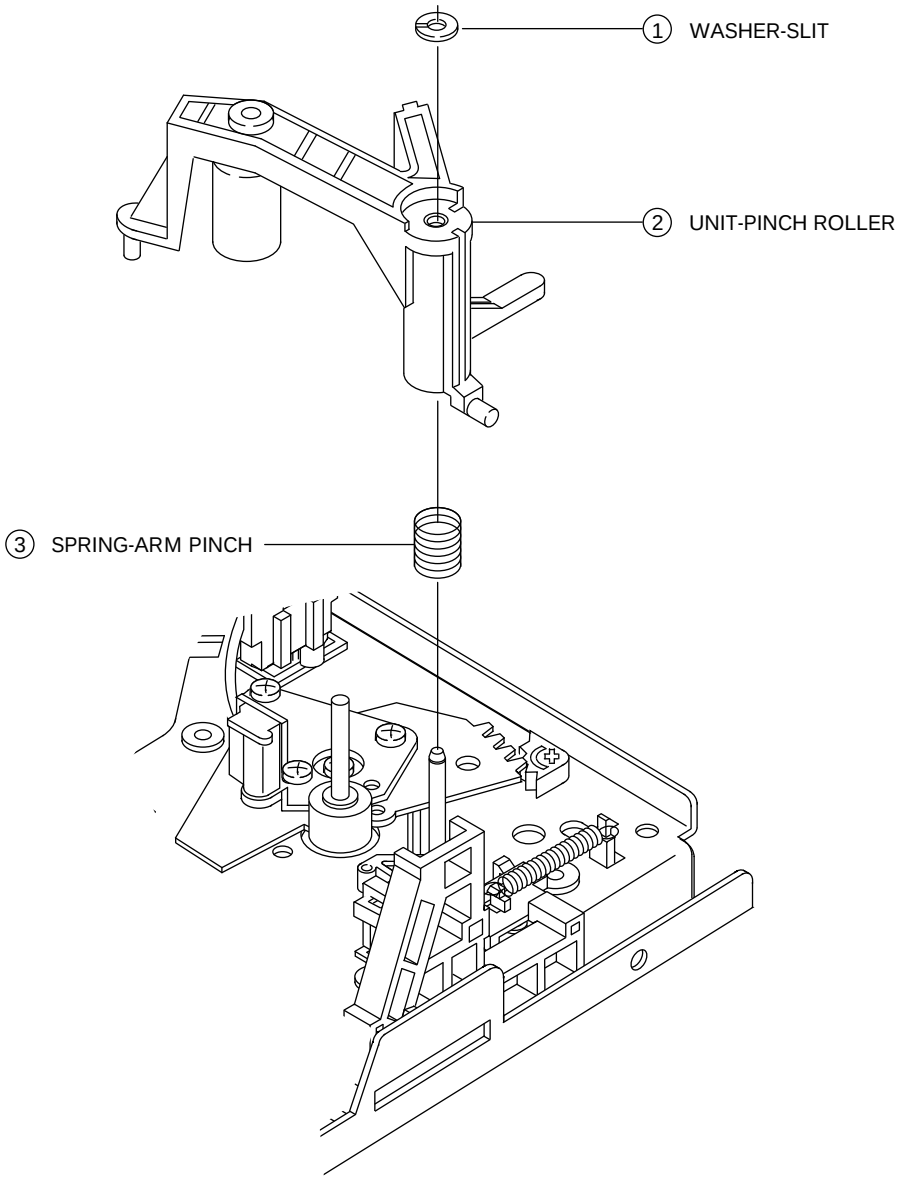


Fig. 1-31 Unit Pinch Roller Ass'y Removal

1-4-12 Assembly of Unit Pinch Roller

1. Install the Pinch Roller Unit as shown in Fig. 1-32. (Refer to A, B)

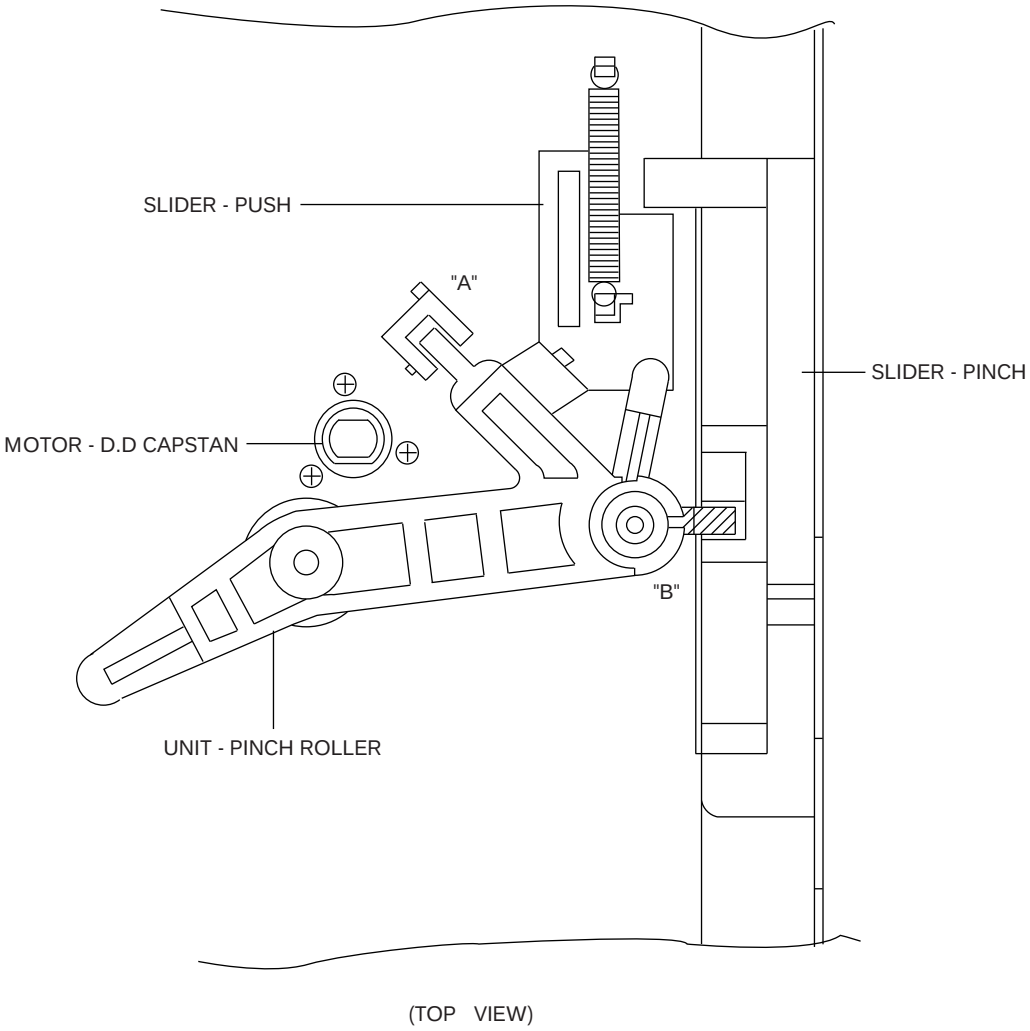


Fig. 1-32 Assembly of Unit Pinch Roller

1-4-13 Exploded View of Lever Pinch Comp Ass'y, Lever Pinch Cam, Arm Review Ass'y and Lever Review Ass'y

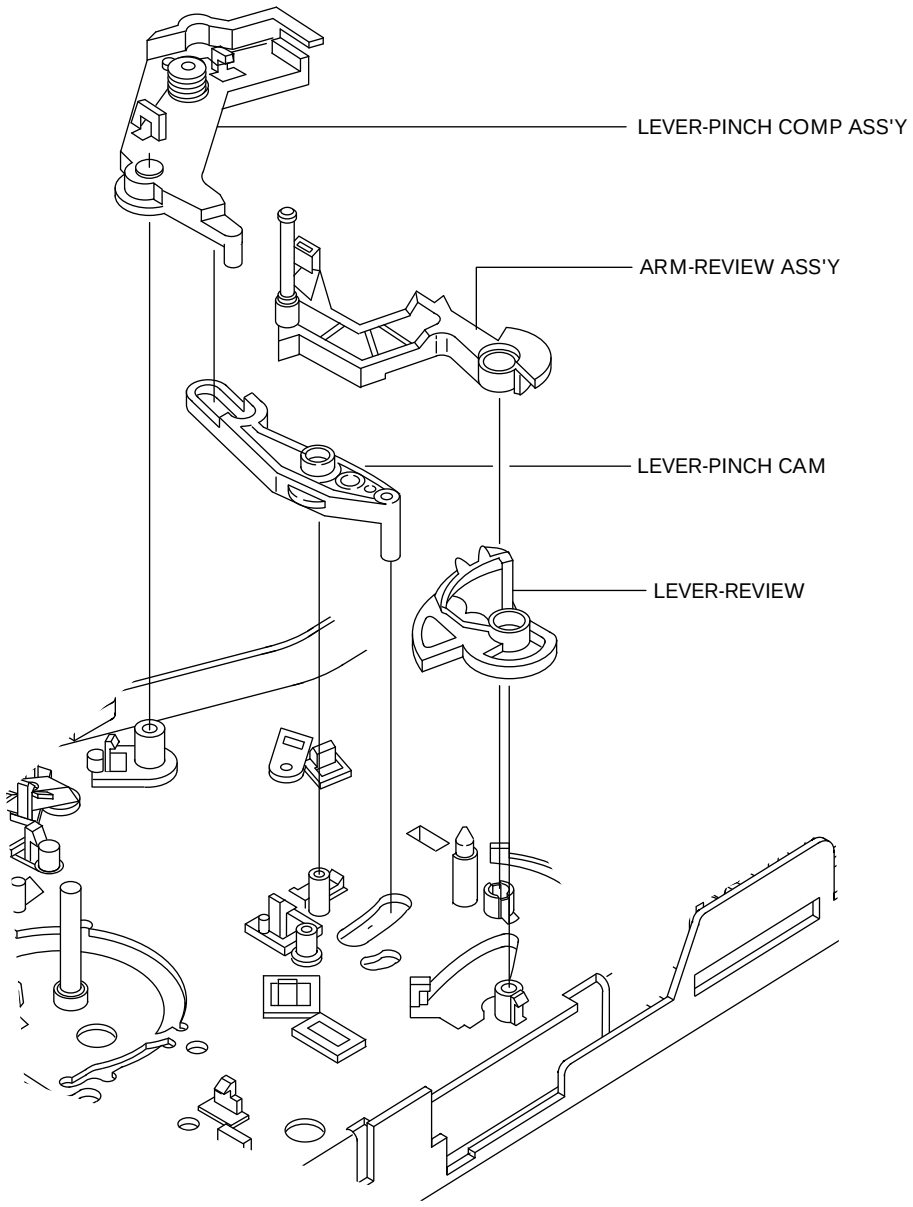
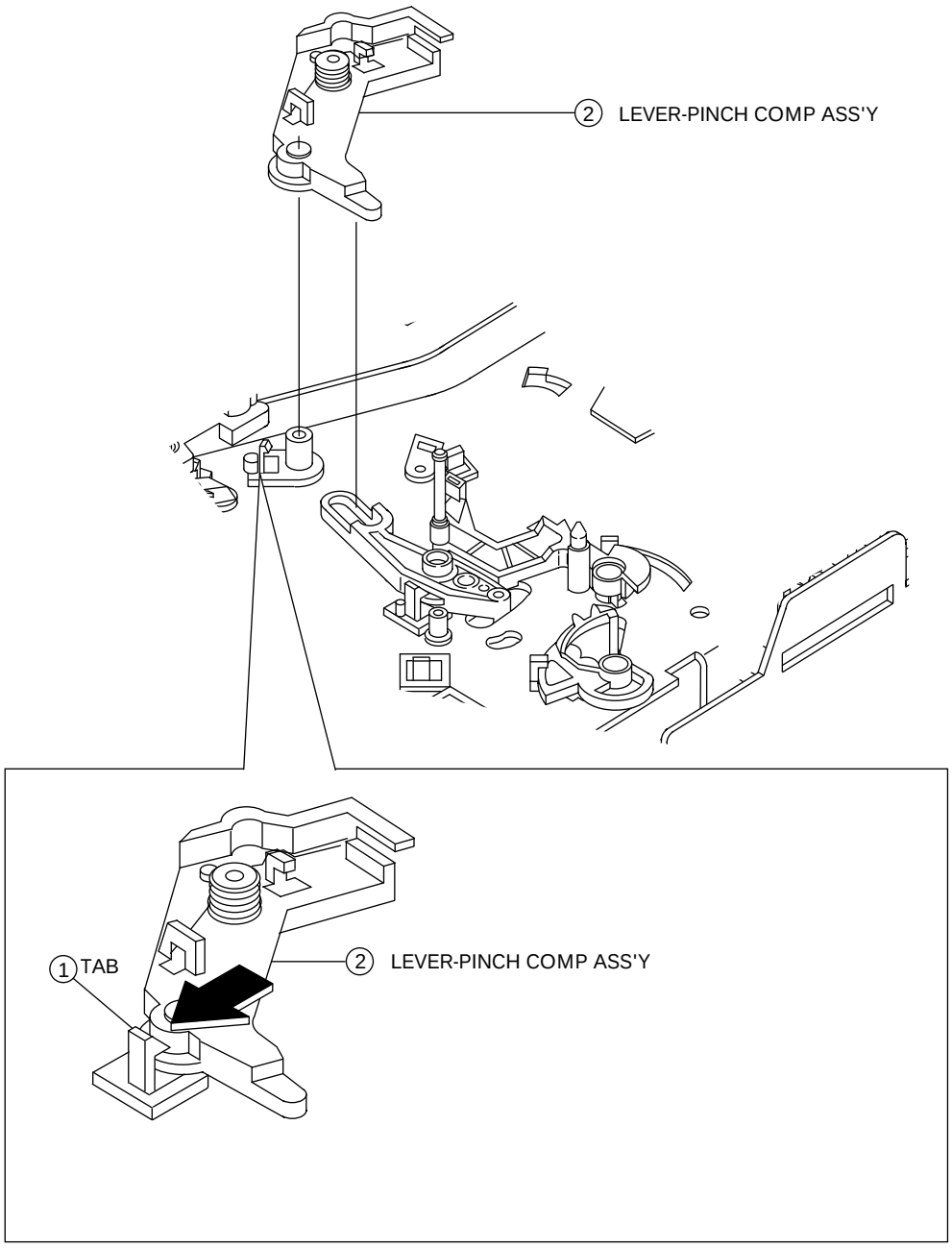


Fig. 1-33 Exploded View of Lever Pinch Comp Ass'y, Lever Pinch Cam, Arm Review Ass'y and Lever Review Ass'y

1-4-14 Lever Pinch Comp Ass'y Removal

1. Release the tab ① in the direction of arrow. (Refer to detail drawing)
2. Lift the Pinch Comp Lever Ass'y ②.

Note : Don't touch the Pinch Comp Lever Ass'y ① to Audio Head Base during removal.

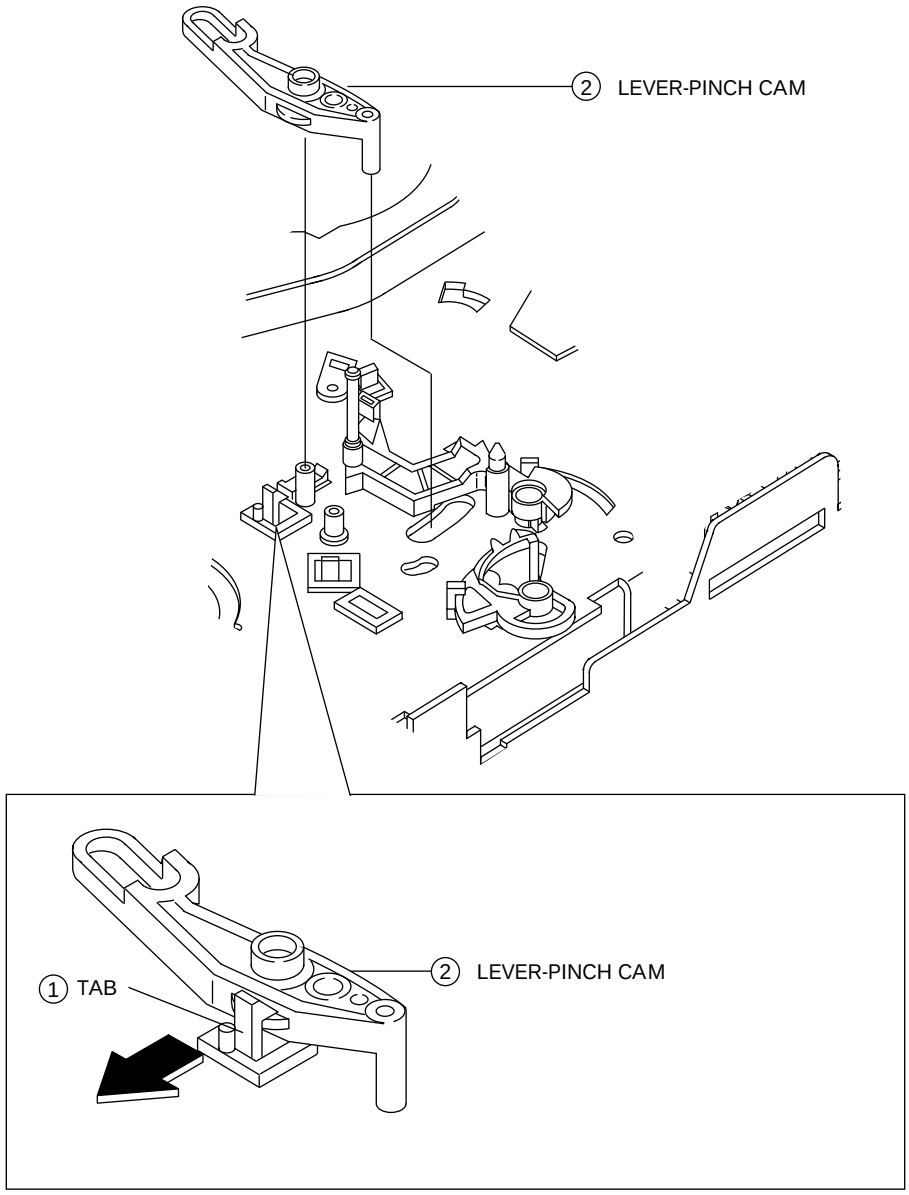


<DETAIL>

Fig. 1-34 Lever Pinch Comp Ass'y Removal

1-4-15 Lever Pinch Cam Removal

1. Release the tab ① in the direction of arrow. (Refer to detail drawing)
2. Lift the Pinch Cam Lever ②.



<DETAIL>

Fig. 1-35 Lever Pinch Cam Removal

1-4-16 Arm Review Ass'y Removal

1. Push the Stopper tab ① in the direction of arrow.
2. Pull the Review Arm Ass'y ② in the direction of arrow "A" and then confirm "B". (Refer to detail drawing "A")
3. Release the tab ③ in the direction of arrow and then lift the Review Arm Ass'y ②.

Note : Take extreme care not to damage when removing the Review Arm Ass'y ②. (B part of detail drawing A)

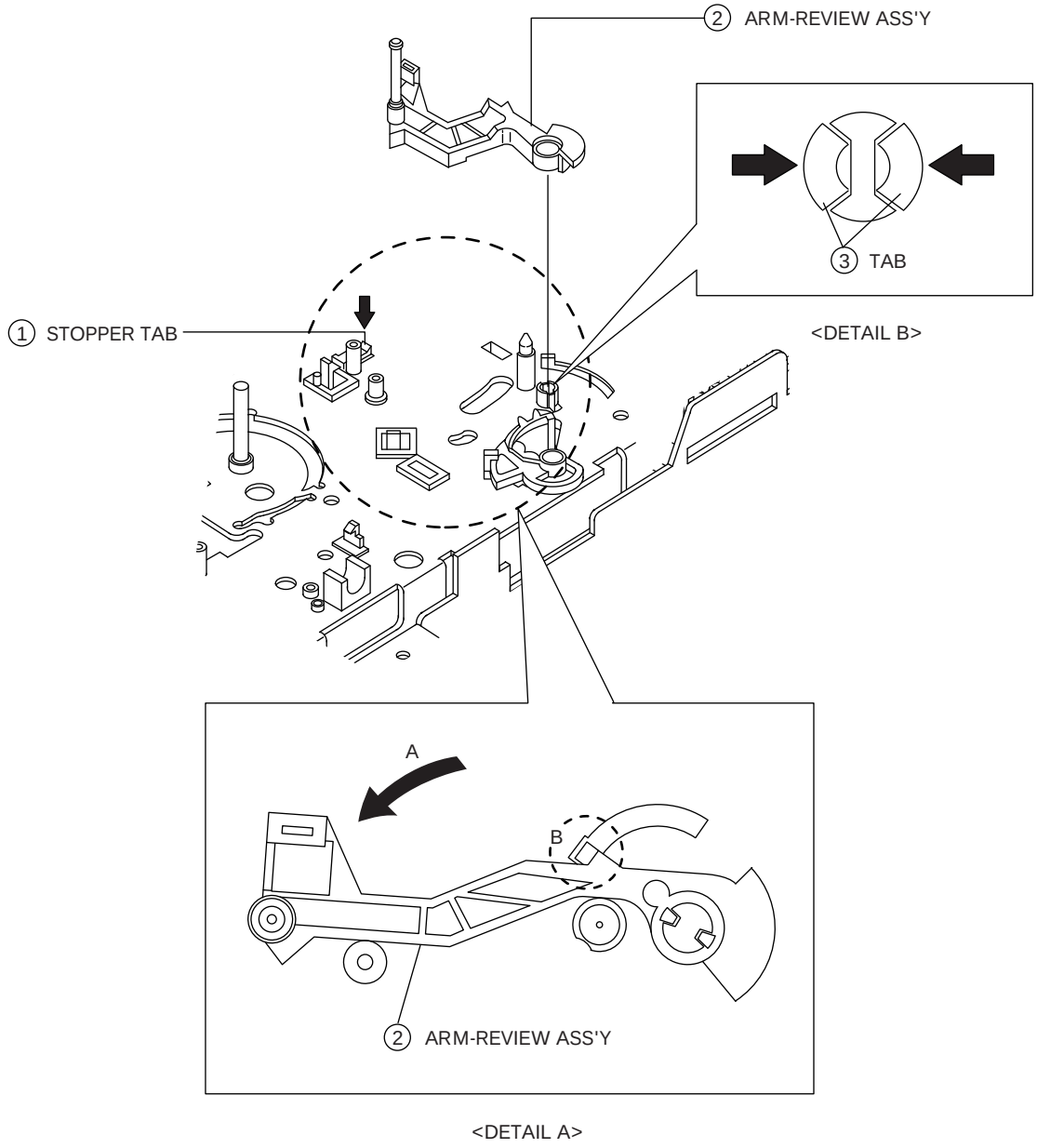


Fig. 1-36 Arm Review Ass'y Removal

1-4-17 Lever Review Removal

1. Release the tab ① in the direction of arrow. (Refer to detail drawing)
2. Lift the Review Lever ②.

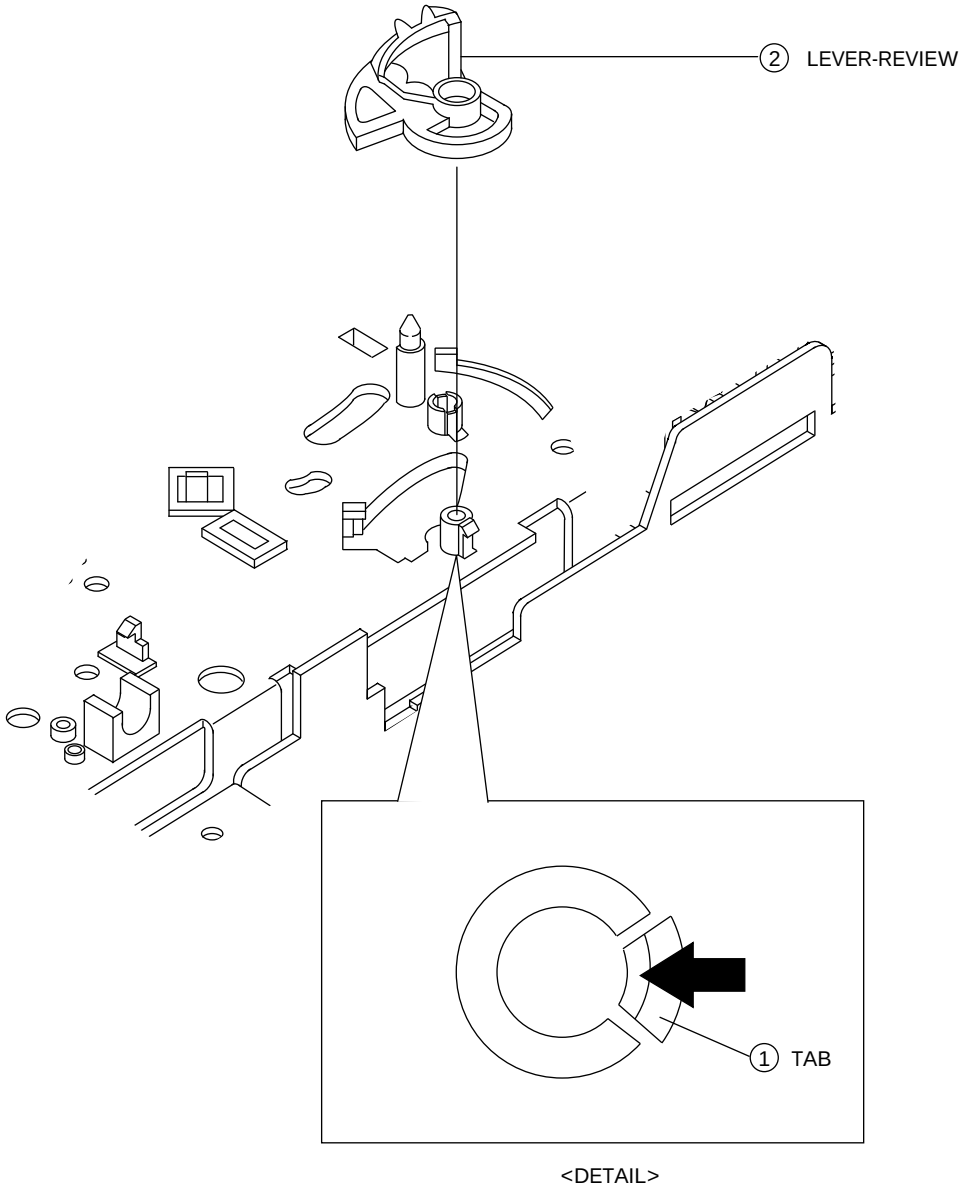


Fig. 1-37 Lever Review Removal

1-4-18 Belt Capstan Removal

1. Remove the Capstan Belt ①.

Note : Take extreme care not to touch the grease when removing or reinstalling.

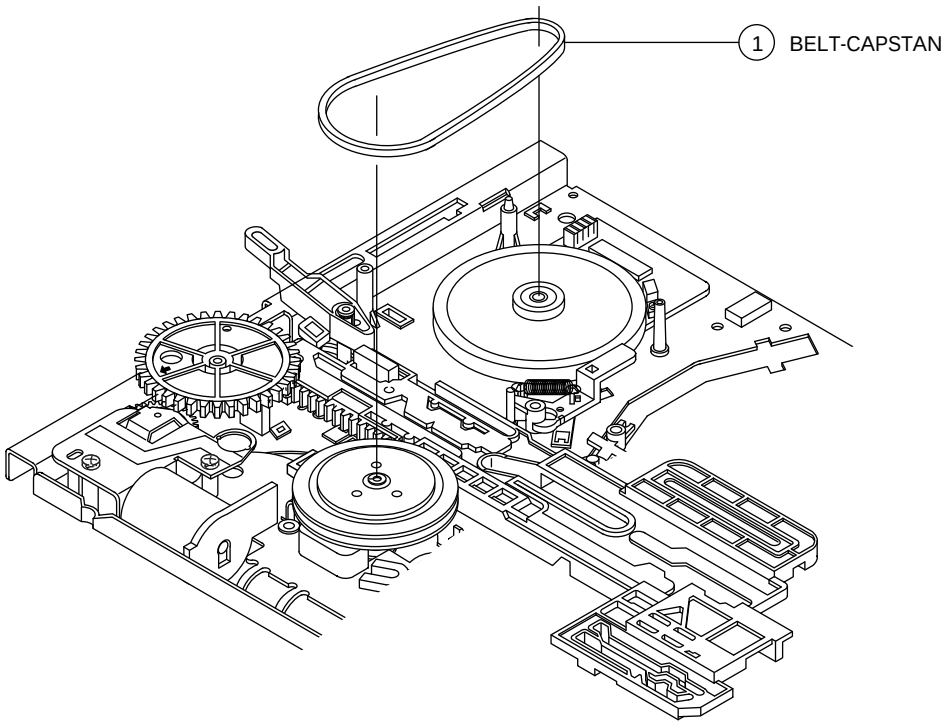


Fig. 1-38 Belt Capstan Removal

1-4-19 Brake Capstan Ass'y Removal

1. Remove the Brake Capstan Spring ①.
2. Release the tab ② in the direction of arrow. (Refer to detail drawing)
3. Lift the Capstan Brake Ass'y ③.

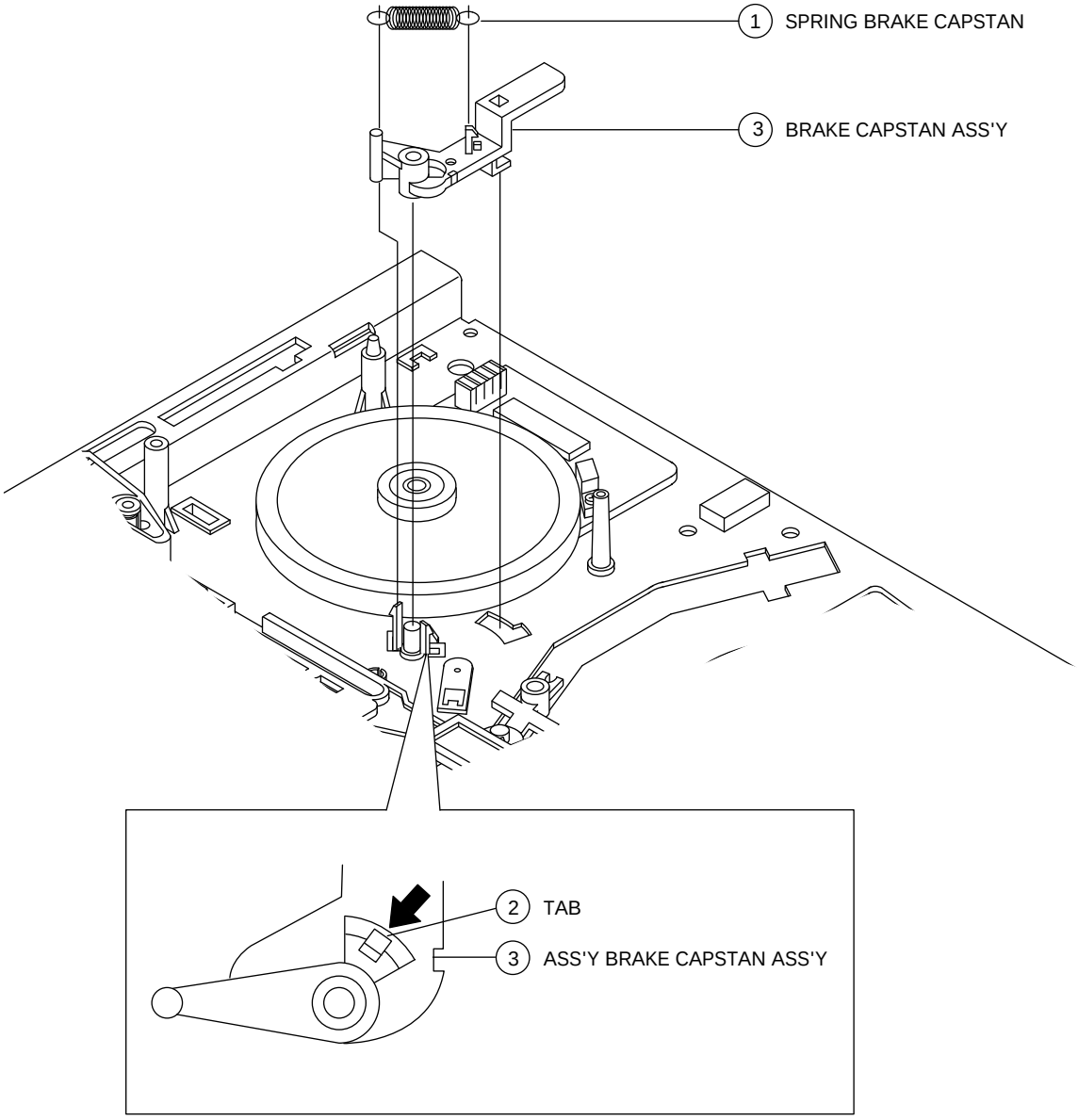


Fig. 1-39 Brake Capstan Ass'y Removal

1-4-20 Motor D.D Capstan Removal

1. Remove 3 Screws ①. (Top view)
2. Lift the Capstan D.D Motor ② in the direction of arrow. (Bottom view)

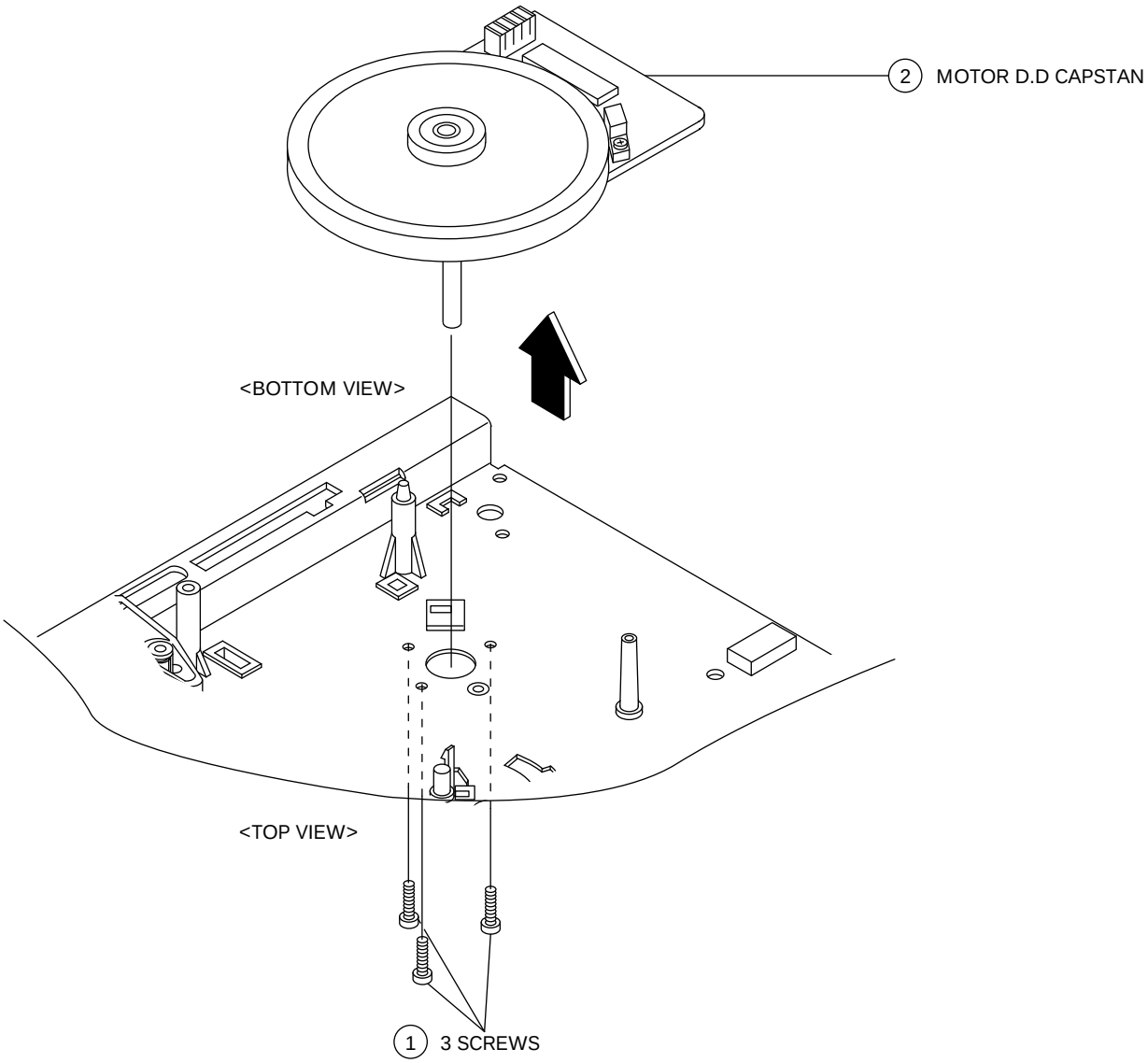


Fig. 1-40 Motor D.D Capstan Removal

1-4-21 Clutch Ass'y Removal

1. Remove the Slit Washer ①.
2. Lift the Clutch Ass'y ②.
3. Remove the Plain Washer ③.

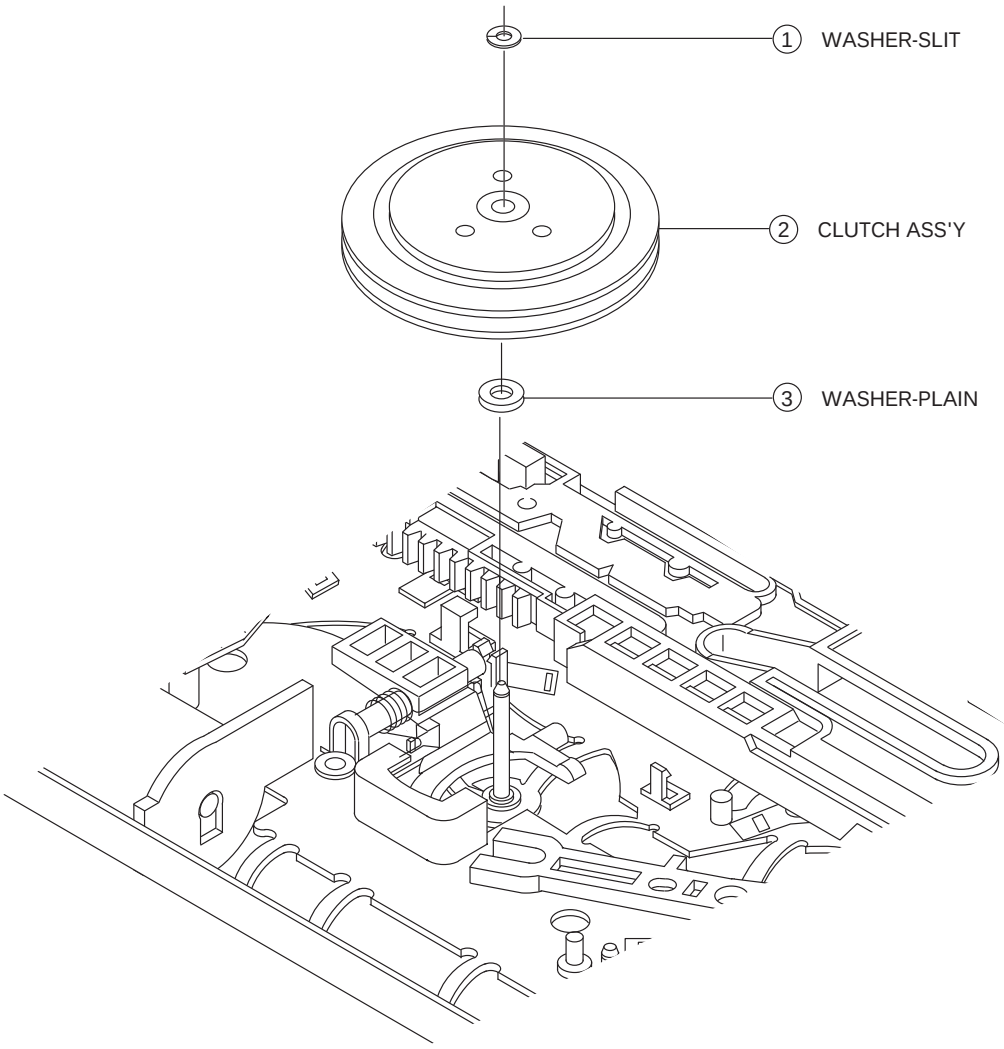


Fig. 1-41 Clutch Ass'y Removal

1-4-22 Gear Master Removal

1. Remove the Slit Washer ①.
2. Lift the Master Gear ②.

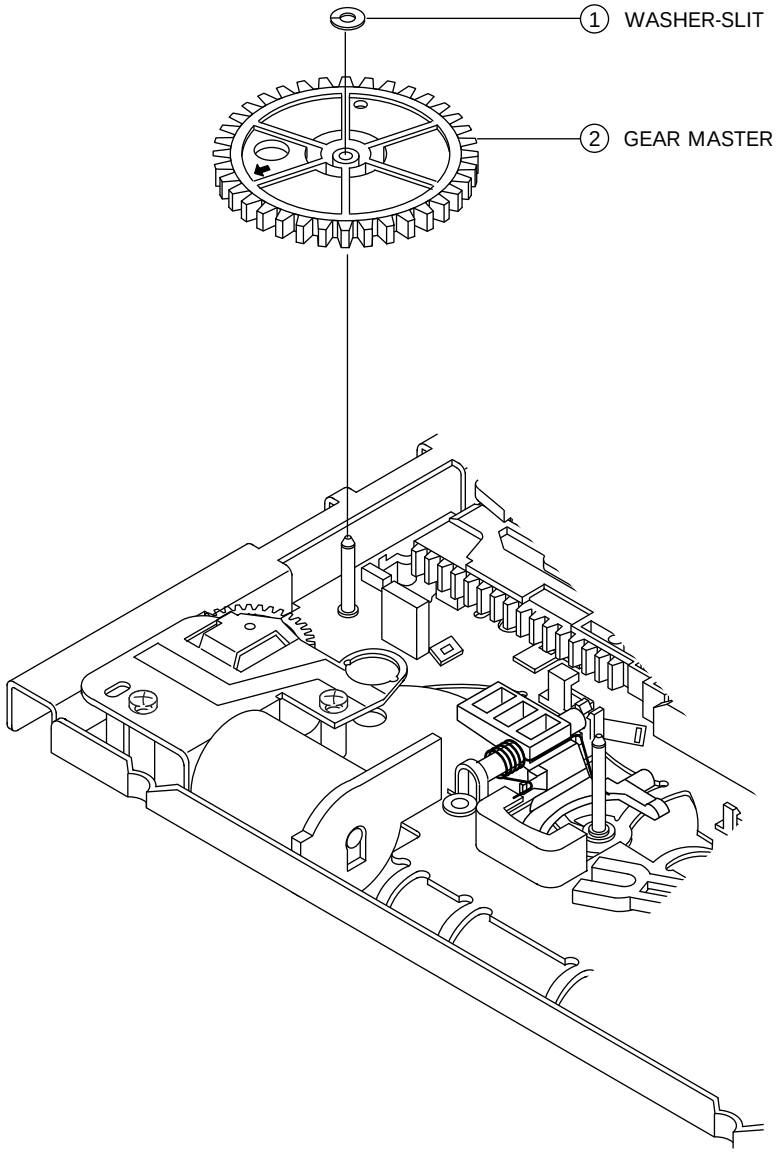


Fig. 1-42 Gear Master Removal

1-4-23 Assembly of Gear Master

1. When reinstalling, be sure to align the arrow of the Master Gear ① with home Gear of the Worm-Wheel Gear ②. (Refer to timing point)

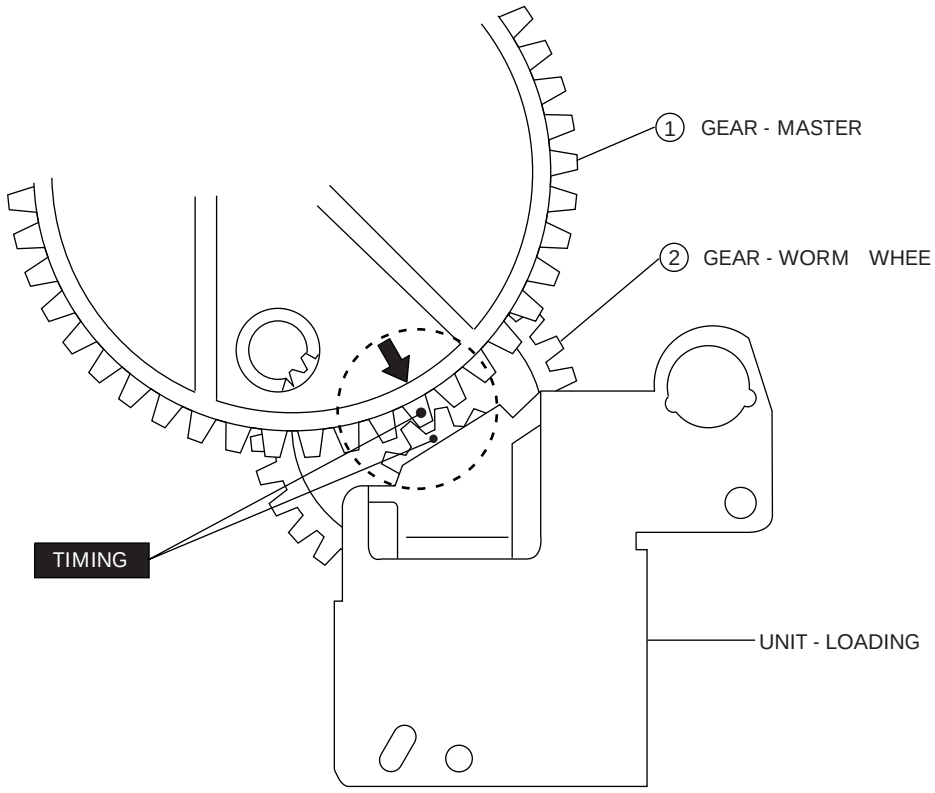


Fig. 1-43 Assembly of Gear Master

1-4-24 Unit Loading Removal

1. Remove 2 Screws ①.
2. Lift the Loading Unit ② in the direction of arrow.

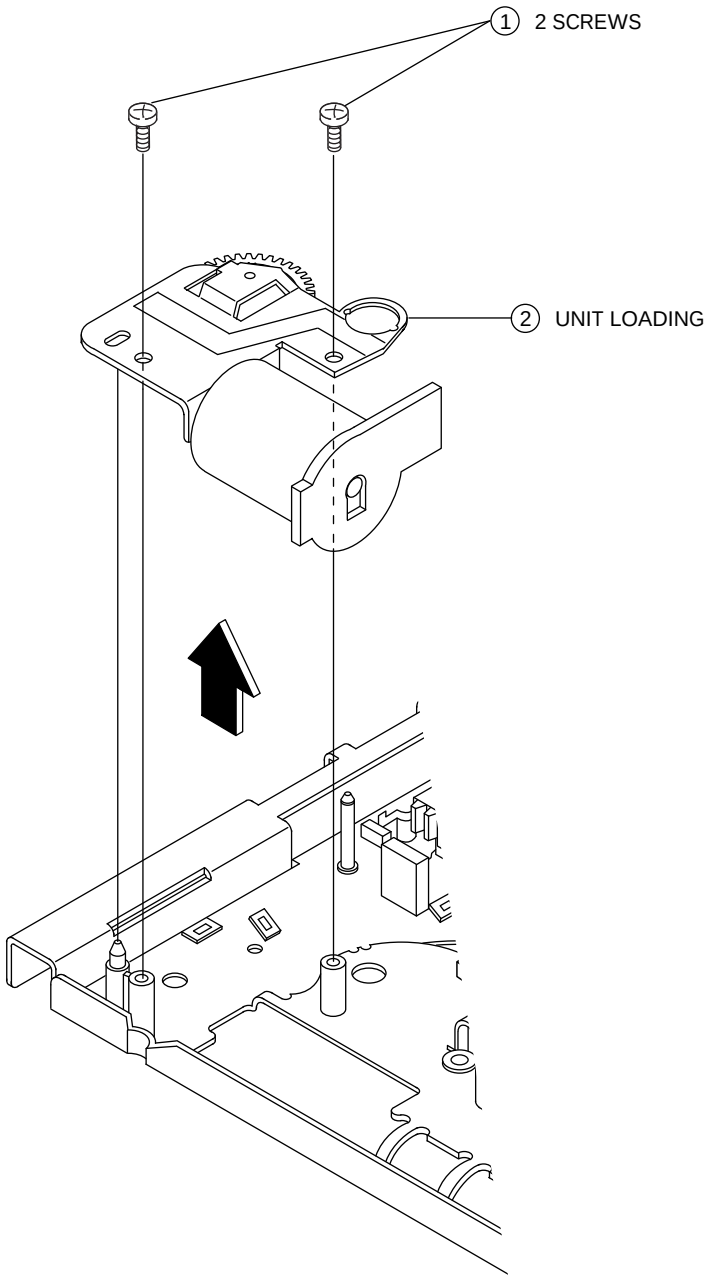


Fig. 1-44 Unit Loading Removal

1-4-25 Lever Slide Pinch Removal

1. Remove the Slit Washer ①.
2. Lift the Slide Lever Pinch ②.

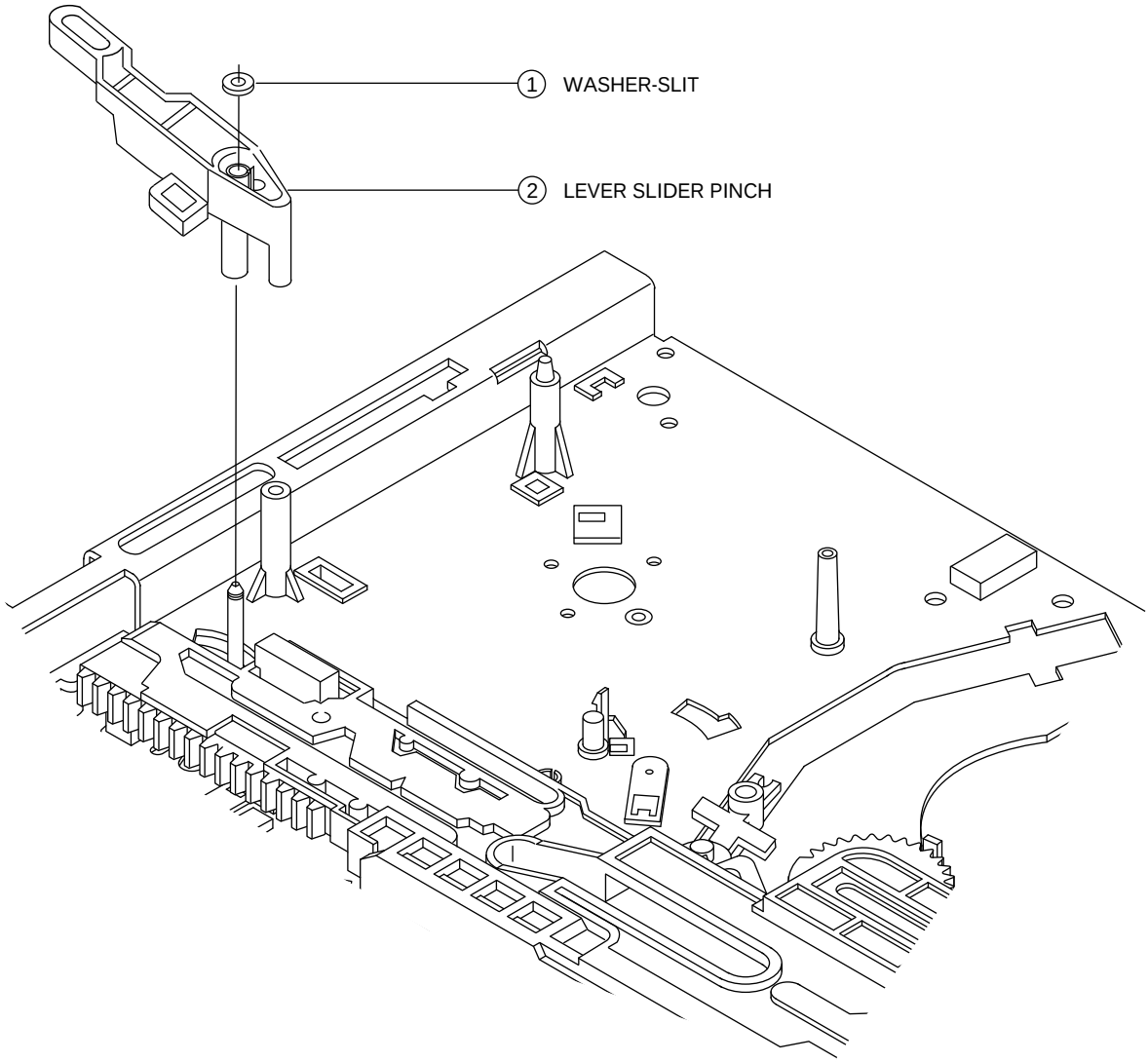


Fig. 1-45 Lever Slide Pinch Removal

1-4-26 Assembly of Lever Slide Pinch

1. Pull the Pinch Slide ① to the end in the direction of arrow.
2. Insert the Pinch Slide ① into the hole of Slide Lever Pinch ②. (Refer to detail "A")

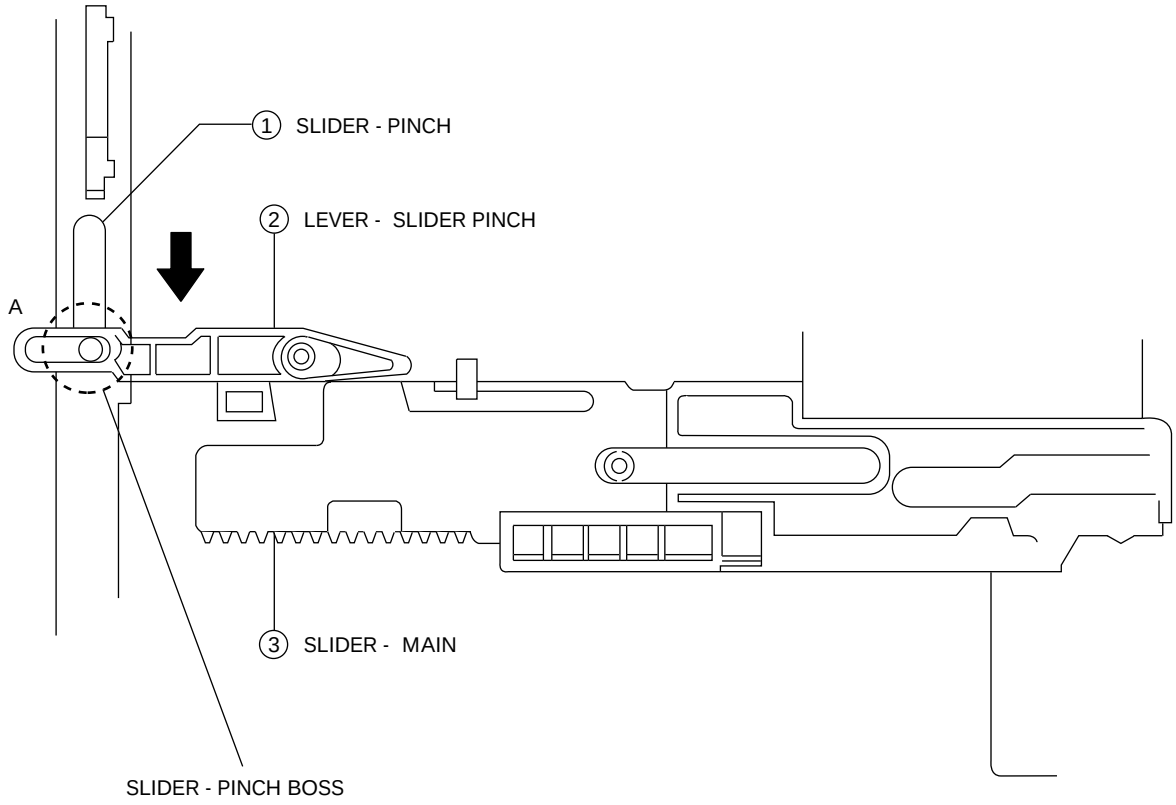


Fig. 1-46 Assembly of Lever Slide Pinch

1-4-27 Slide Main Removal

1. Remove the Slit Washer ①.
2. Release 3 tabs ②, ③, ④ in the direction of arrow.
3. Lift the Main Slide ⑤.

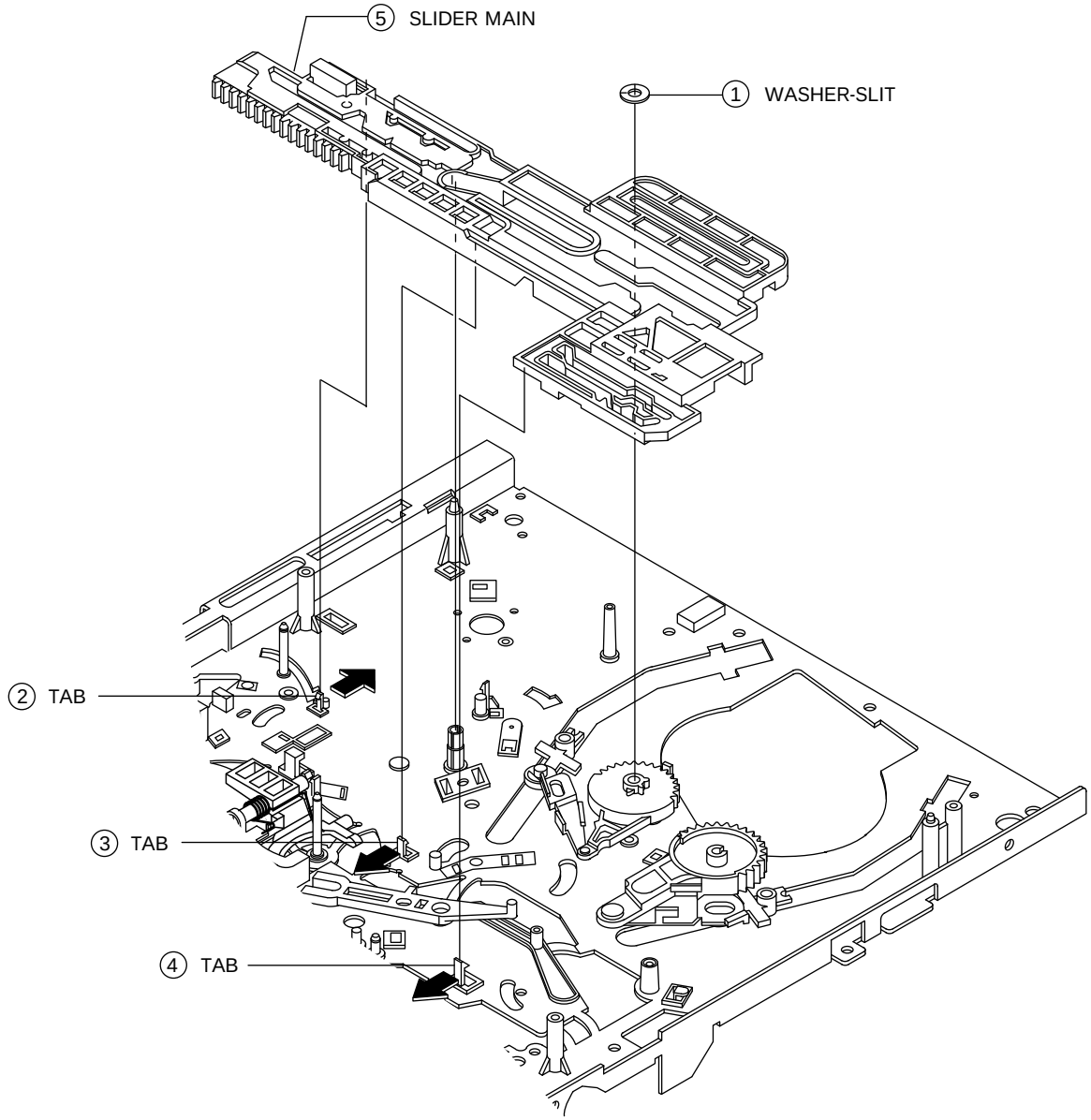


Fig. 1-47 Slide Main Removal

1-4-28 Assembly of Slide Main

1. Install the shaft of Loading "R" Gear Ass'y into the left of the Main Slide Hole and secure with the Slit Washer ②. (Refer to detail "A")
2. Insert the Tension Control Lever ③ and the Idler Change Lever ④ into the Main Slide Hole. (Refer to detail "B")
3. After confirming the above items 1, 2 install the Main Slide and secure with tabs (a, b, c).

Note : Be sure to assemble the Main Slide when the Loading L/R Gear Ass'y is in unloading position.

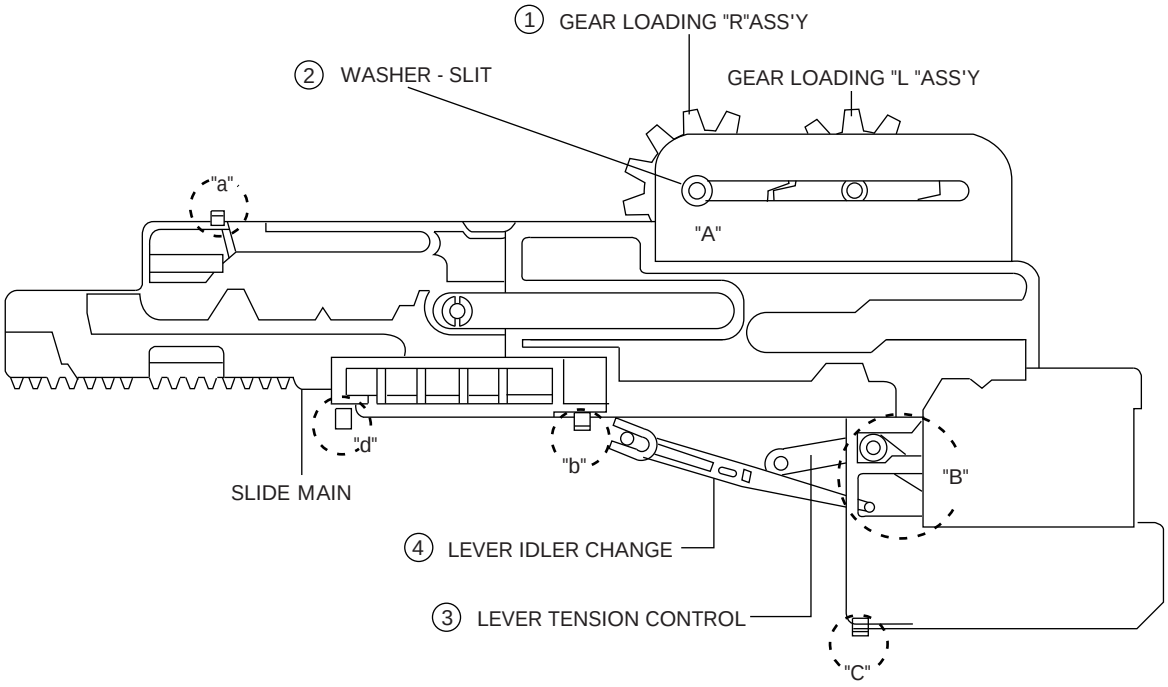


Fig. 1-48 Assembly of Slide Main

1-4-29 Lever Shift Ass'y Removal

1. Hang the Lever Shift Spring ① to the claw of the Shift Lever ③. (Refer to detail drawings A, B)
2. Release the tab ② in the direction of arrow.
3. Lift the Shift Lever ③.

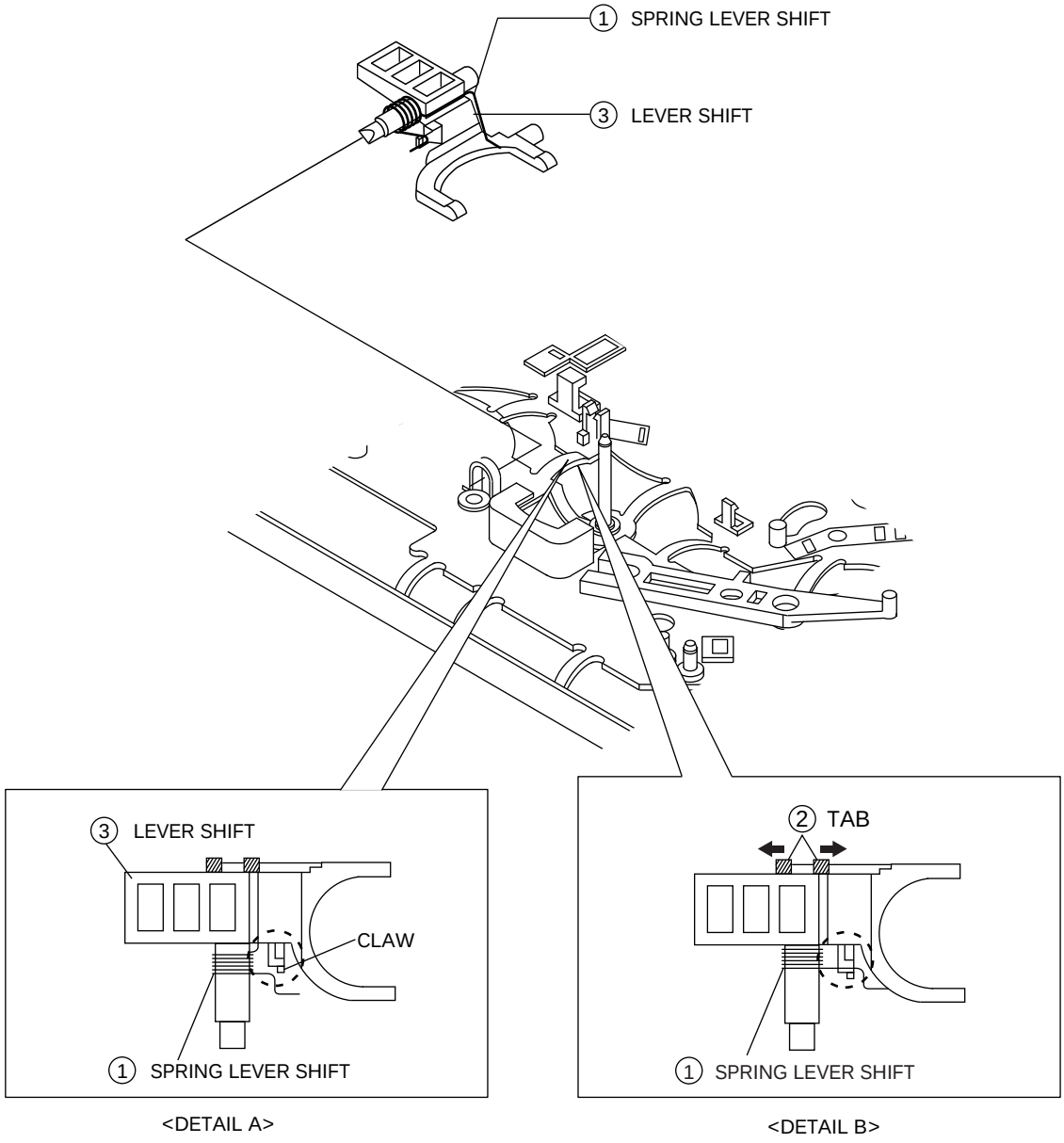


Fig. 1-49 Lever Shift Ass'y Removal

1-4-30 Lever Idler Change Removal

1. Release the tab ① in the direction of arrow. (Refer to detail drawing)
2. Lift the lever Change Idler ②.

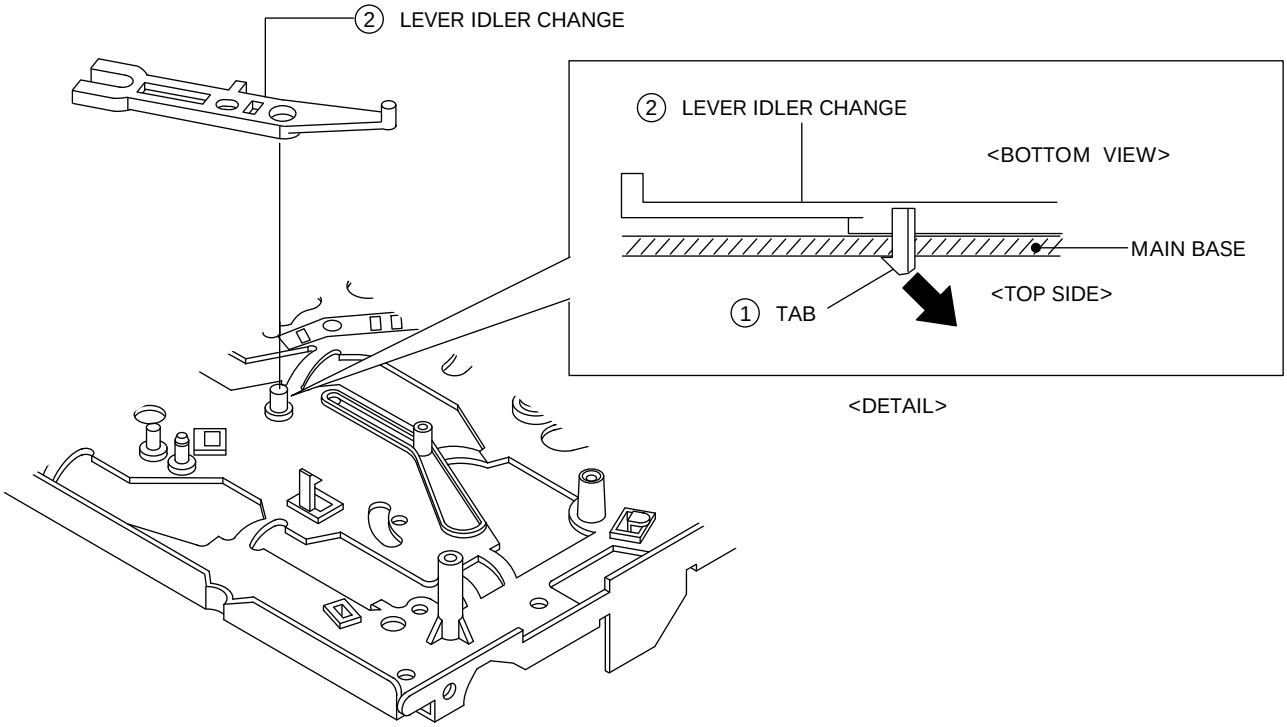


Fig. 1-50 Lever Idler Change Removal

1-4-31 Gear Loading “L”, “R” Ass’y Removal

1. Remove the Loading “R” Gear Ass’y ② from the Roller “T” Guide ③ by pushing the Loading “R” Spring ① in the direction of arrow. (Refer to detail drawing A)
2. Remove the Loading “L” Gear Ass’y ⑤ from the Roller “S” Guide ⑥ by pushing the Loading “L” Spring ④ in the direction of arrow. (Refer to detail drawing B)
3. Lift the Loading “R” Gear Ass’y ②.
4. Lift the Loading “L” Gear Ass’y ⑤ by pushing the tab ⑦ of the Loading “L” Gear Ass’y ⑤. (Refer to detail drawing C)

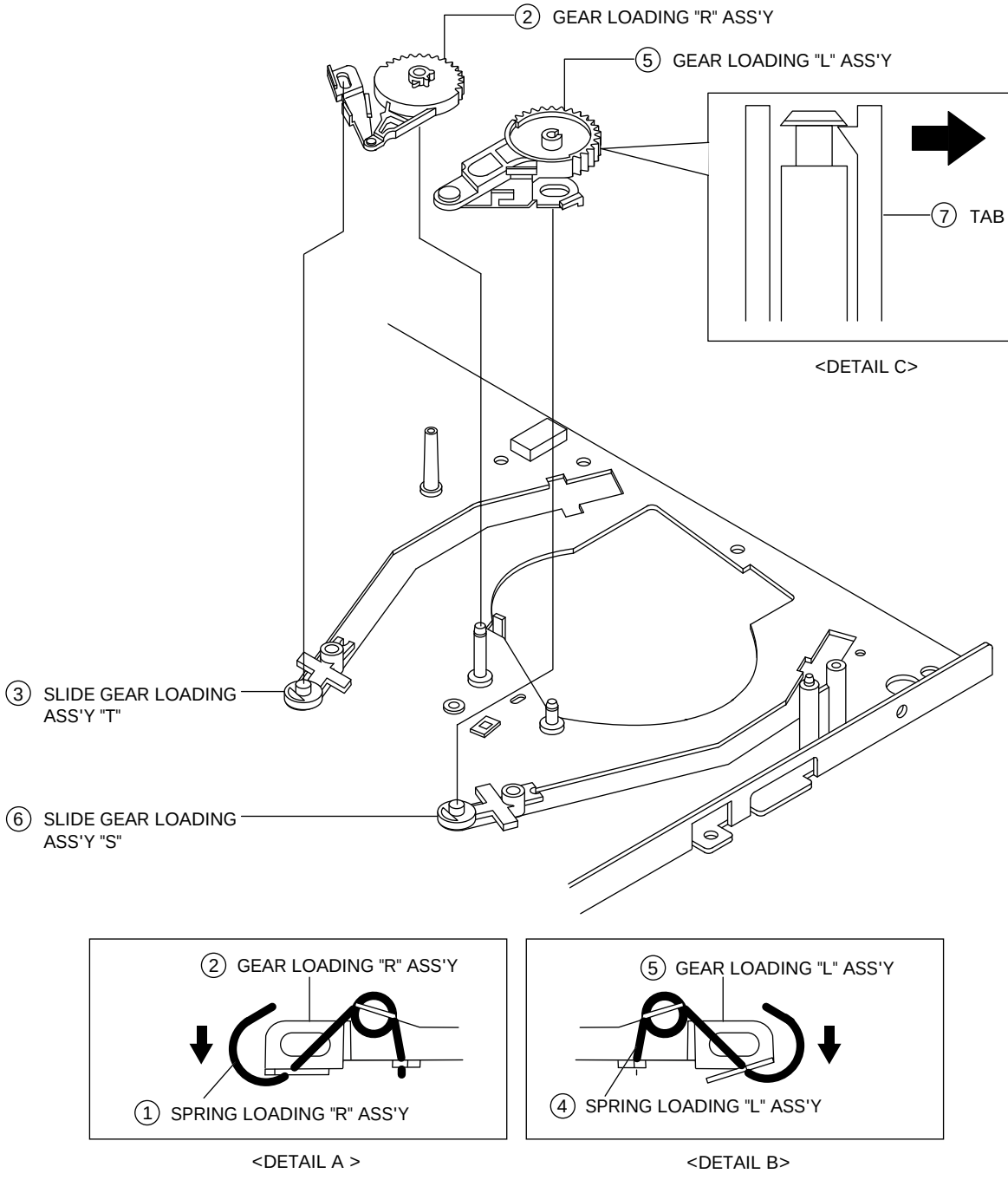


Fig. 1-51 Gear Loading “L”, “R” Ass’y Removal

1-4-32 Assembly of Gear Loading “L”, “R” Ass’y

1. When reinstalling, be sure to align 2 arrow as shown in Fig. 1-52. (Refer to timing point)

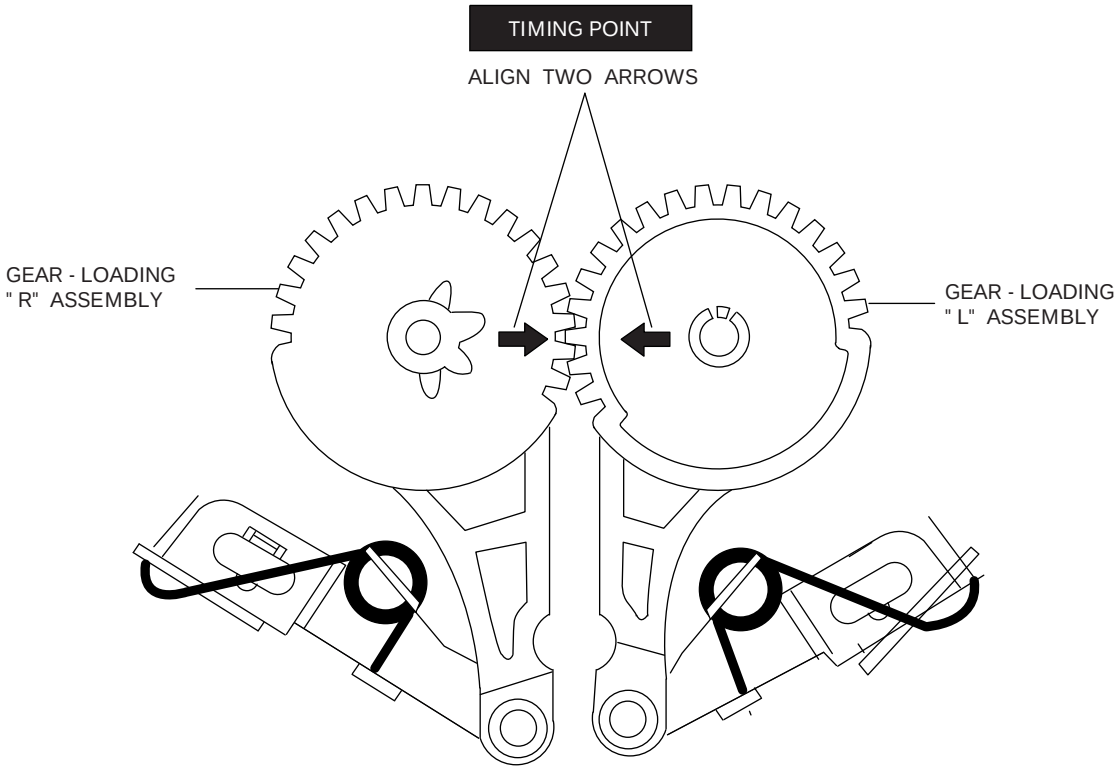


Fig. 1-52 Assembly of Gear Loading “L”, “R” Ass’y

1-4-33 Slide Pinch Removal

1. Push the tab ① in the direction of arrow “A”. (Refer to detail drawing)
2. Lift the Slide Pinch ② in the direction of arrow “B”.

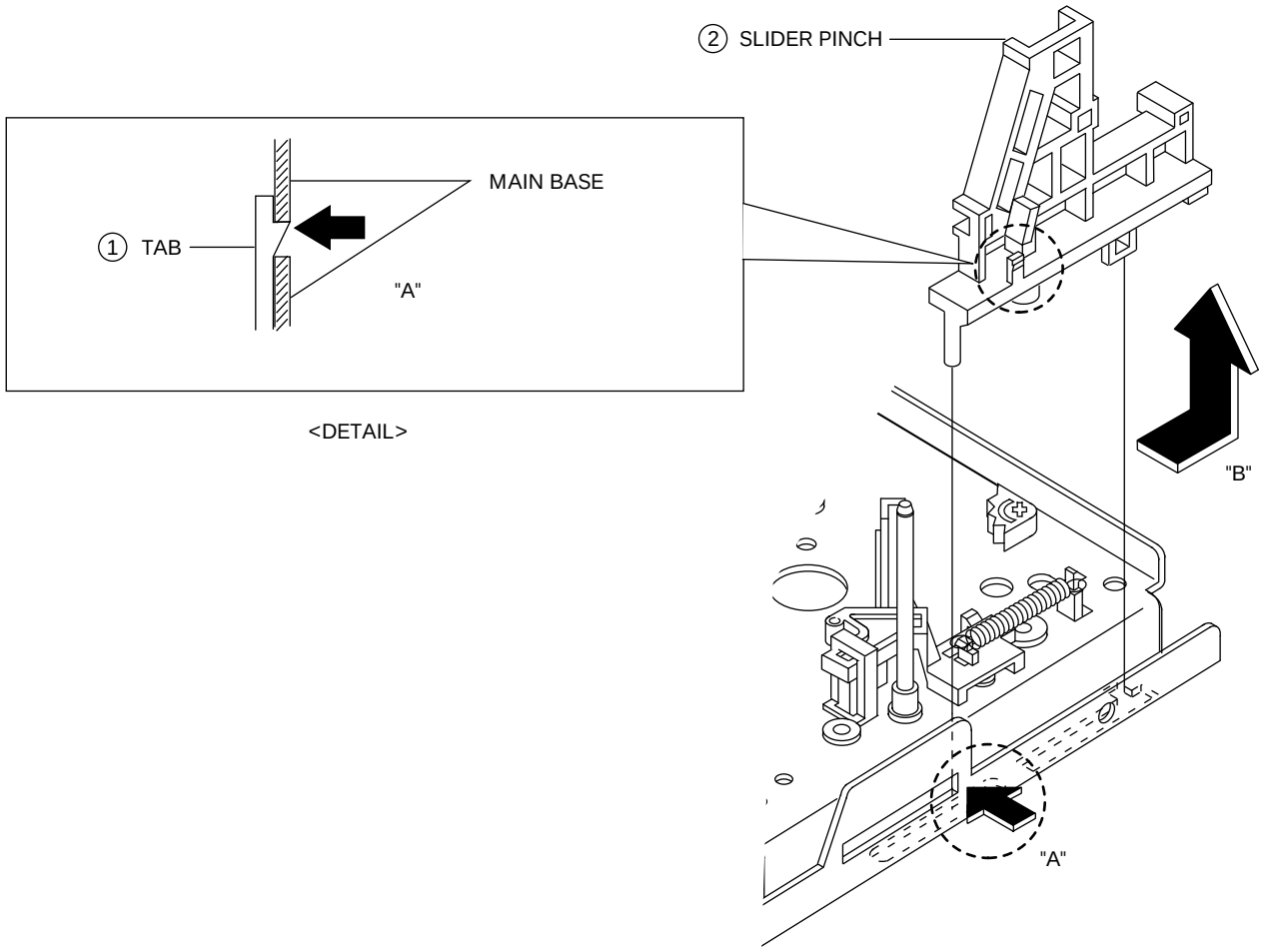
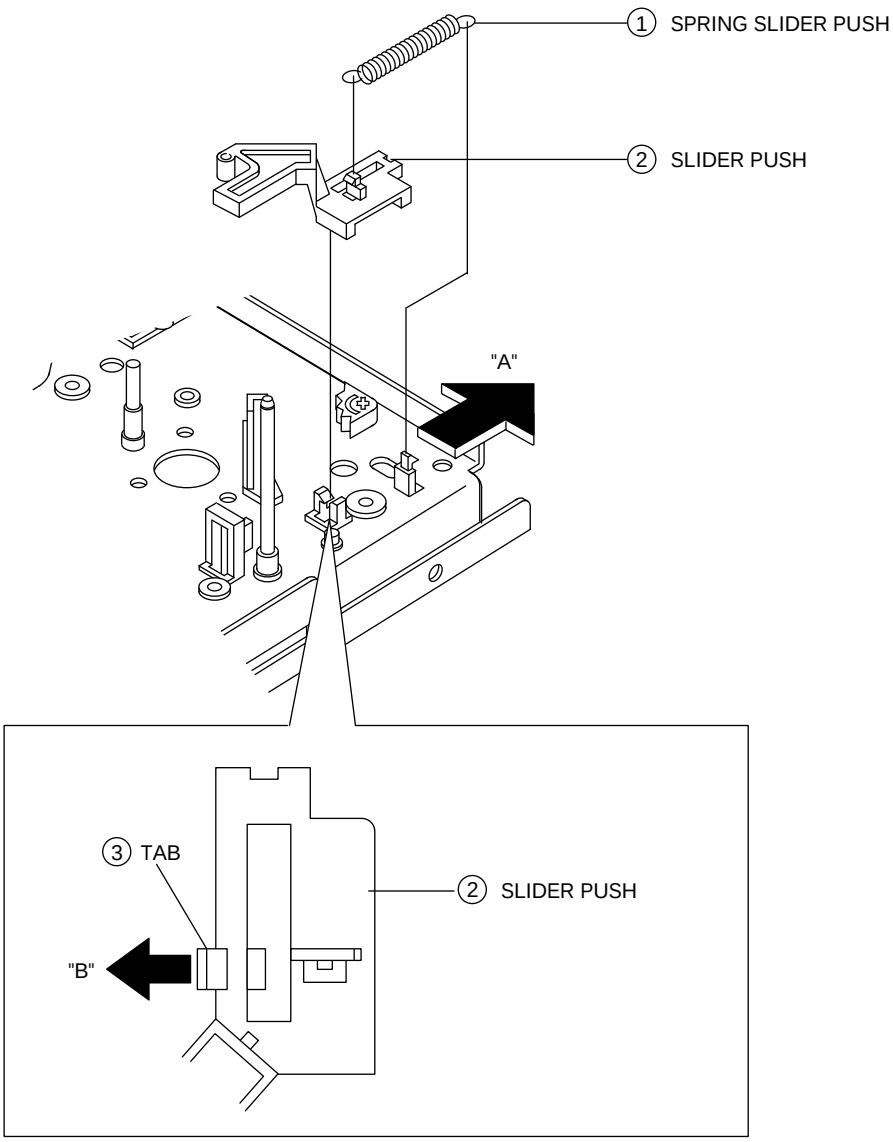


Fig. 1-53 Slide Pinch Removal

1-4-34 Slide Push Removal

1. Remove the Slide Push Spring ①.
2. Push the Slider ② in the direction of arrow “A”.
3. Lift the Push Slider ② by pushing the tab ③ in the direction of arrow “B”. (Refer to ditail drawing)

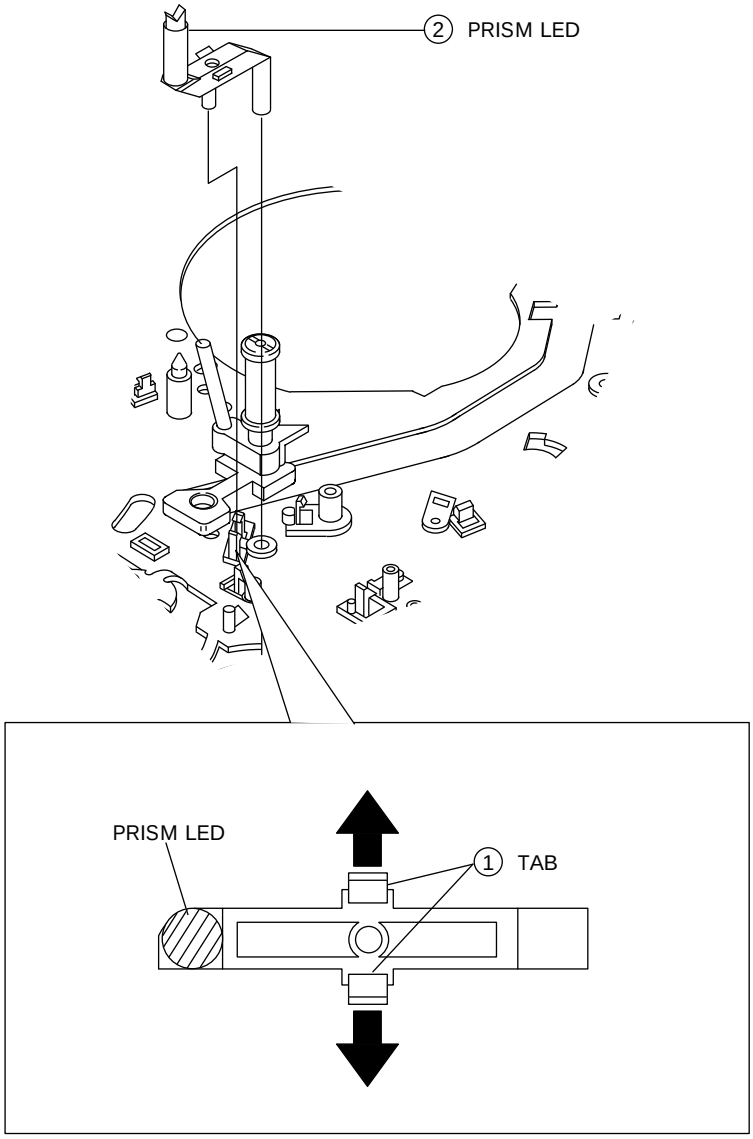


<DETAIL-TOP VIEW>

Fig. 1-54 Slide Push Removal

1-4-35 Prism LED Removal

1. Release the tab ① in the direction of arrow. (Refer to detail drawing)
2. Lift the LED Prism ②.



<DETAIL-TOP VIEW>

Fig. 1-55 Prism LED Removal

1-4-36 Lever Record Switch Removal

1. Remove the Record Switch Spring ①.
2. Release the tab ② in the direction of arrow. (Refer to detail drawing)
3. Lift the Record Switch Lever ③.

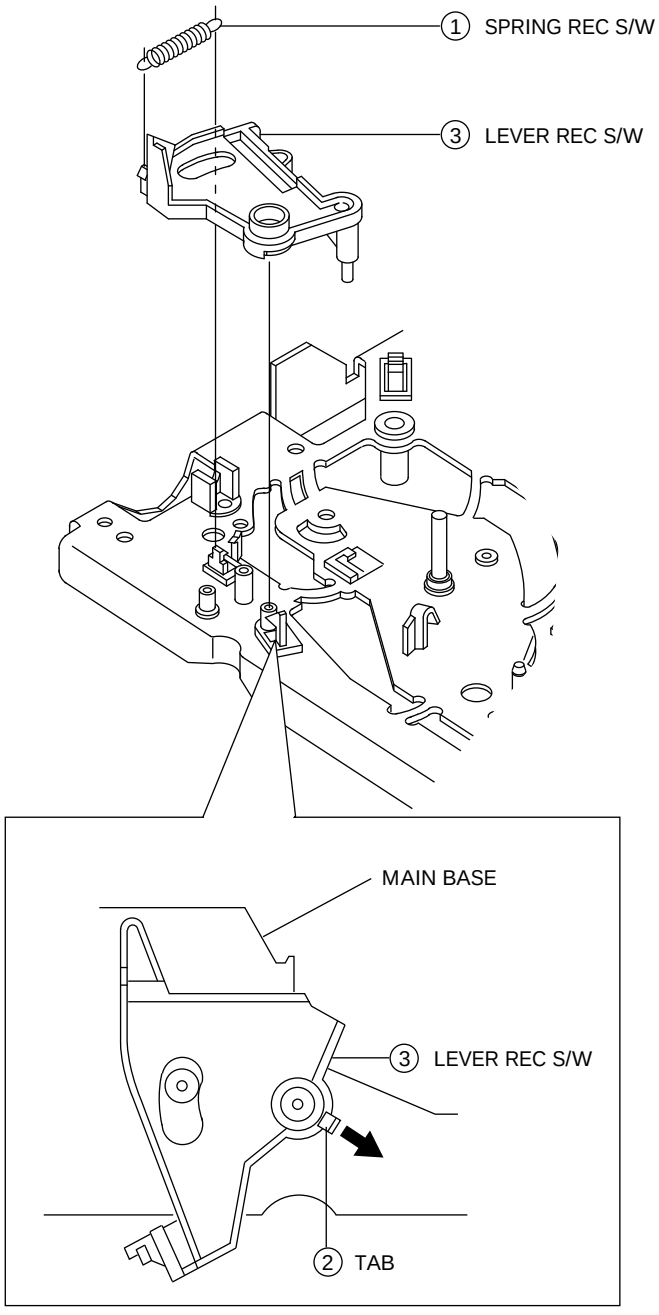


Fig. 1-56 Lever Record Switch Removal

1-4-37 Full Erase Head Removal

1. Remove 1 Screw ①.
2. Lift the F/E Magnet Head ②.

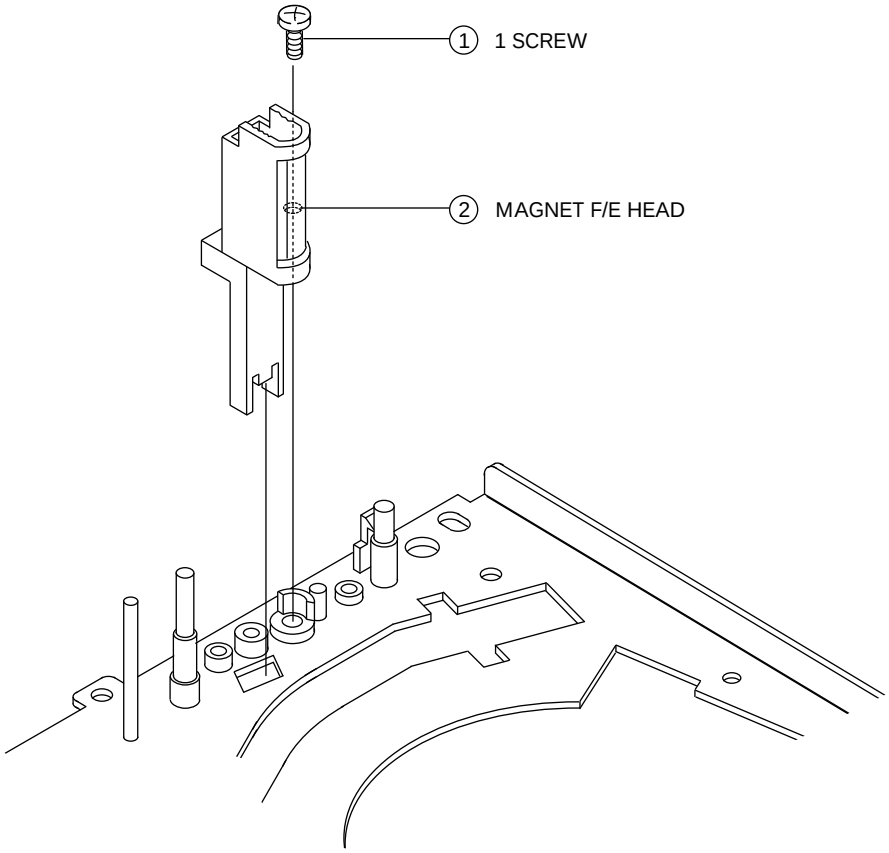


Fig. 1-57 Full Erase Head Removal

1-4-38 ACE Head Removal and Reassembly

1. Release the tab ① holding ACE Holder toward arrow. (Refer to detail drawing A)
2. Remove 1 Screw ②.
3. Lift the ACE Head Ass'y Magnet ③.

Assembly : When reinstalling, be sure to align the 3 teeth of X-Position adjustment gear with the 2 slot of ACE Head Base.

Note : When adjusting the X-Position adjustment gear using (+) driver, do not adjust by force.

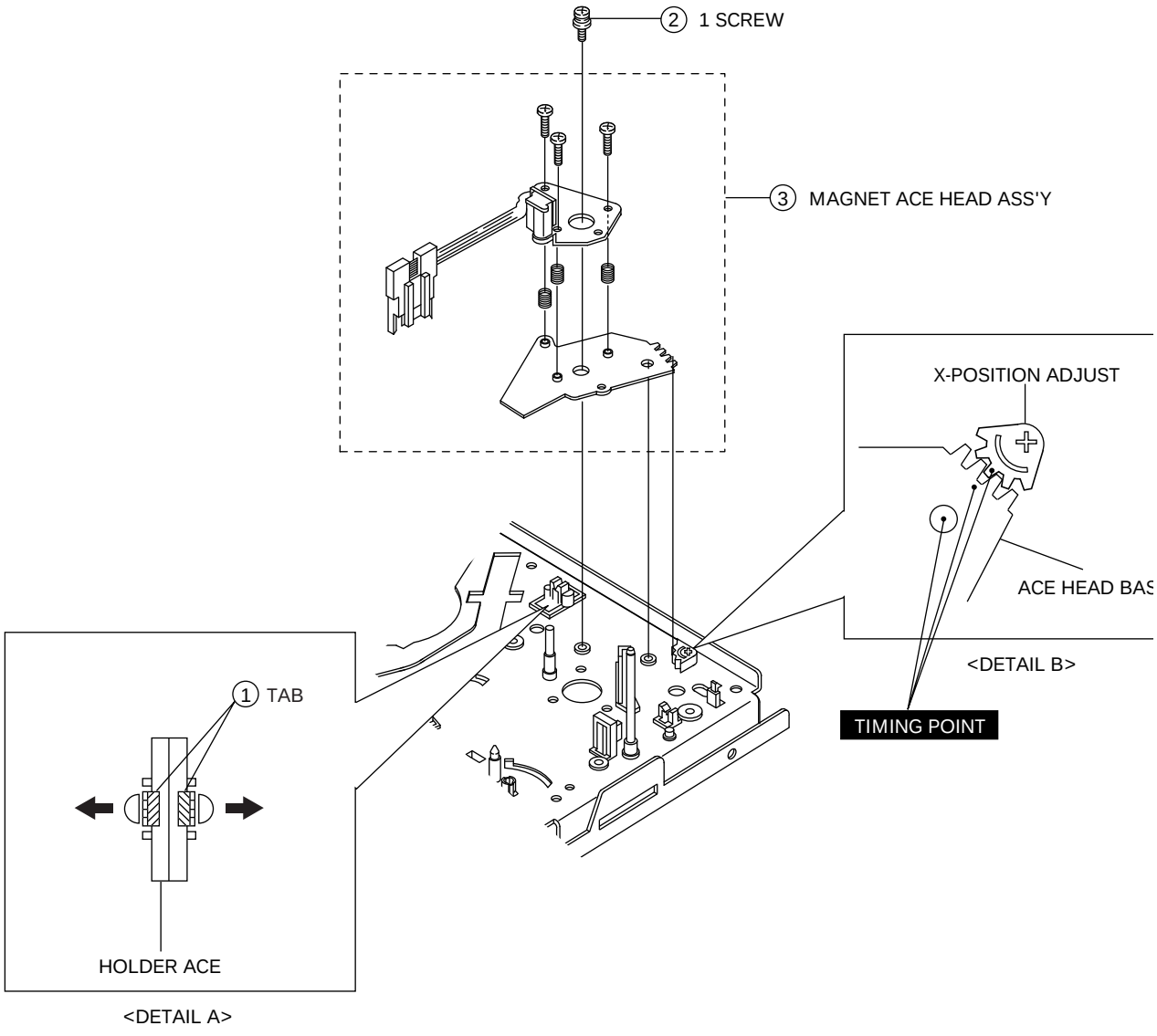


Fig. 1-58 ACE Head Ass'y Removal and Reassembly

1-4-39 Slide Guide Roller “S”, “T” Ass’y Removal

1. Remove the Cylinder Ass’y from the Main Base. (Refer to Fig. 1-12, 1-13, 1-14)
2. Remove the Slide “S”, “T” from the Loading “L”, “R” Gear Ass’y. (Refer to Fig. 1-52)
3. Move the Roller “S”, “T” Guide Ass’y to slot and then lift it to remove. (Refer to arrow)

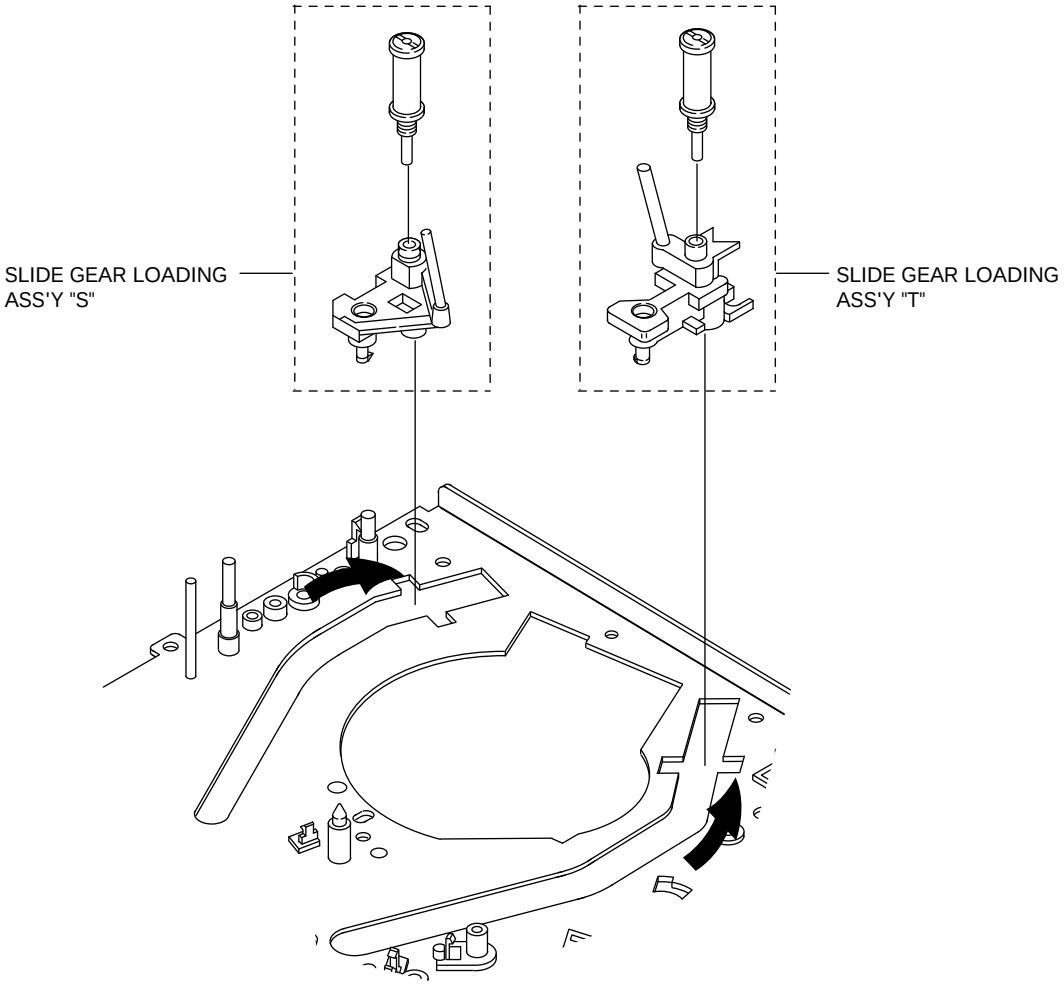


Fig. 1-59 Slide Guide Roller “S”, “T” Ass’y Removal

1-4-40 Assembly of Slide Guide Roller “S”, “T” Ass’y (When all parts except the Cylinder Ass’y are removed.)

1. Push 4 Lever Locks ① of the Housing Ass’y Simultaneously. (Refer to Fig. 1-60)
2. Push the Cassette Ass’y Holder ③ toward arrow “B” while turning the Master Gear ② toward arrow “A”. (Refer to Fig. 1-60)
3. Load the Loading L, R Gear Ass’y ④, ⑤ to the middle position of Guide Rail by turning the Master Gear ② toward arrow “A”. (Refer to Fig. 1-60, 1-61)
4. Install the Guide Roller S, T Slide ⑥, ⑦ into the Rail slot and then move it to the position of Loading Gear L, R Ass’y ④, ⑤. (Refer to Fig. 61)
5. Turn the Master Gear ② toward arrow “A”. (Eject mode)

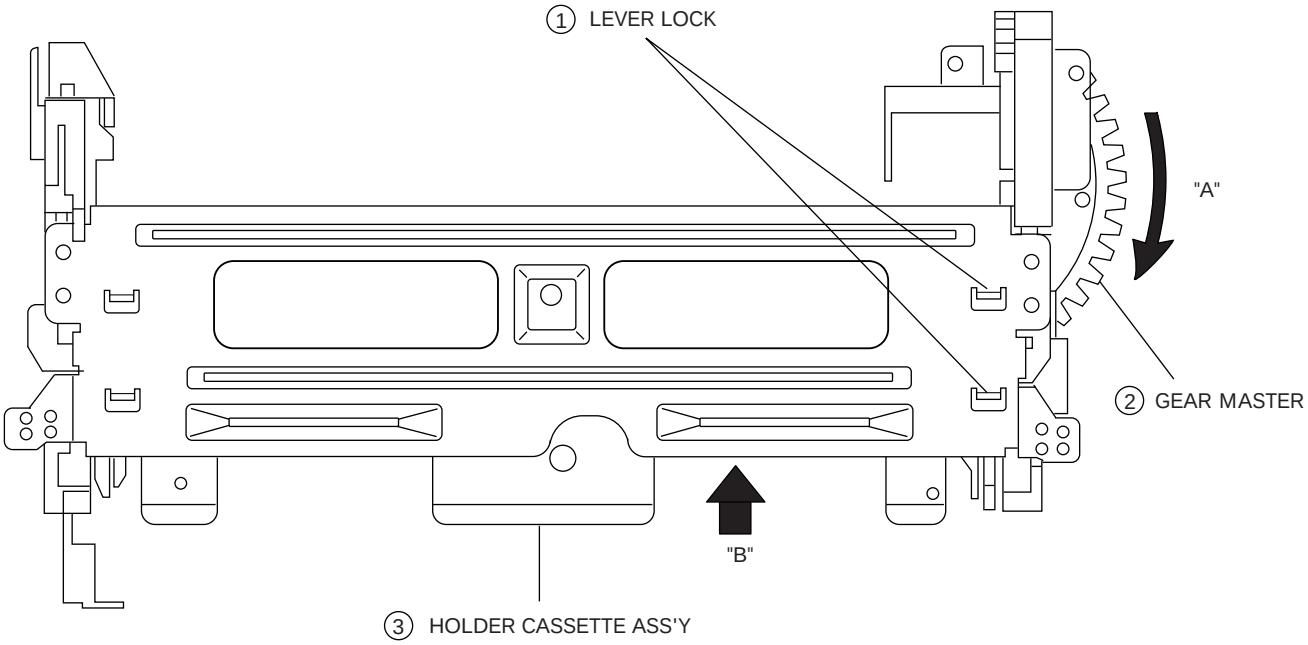


Fig.1-60 How to operate the Housing Ass’y

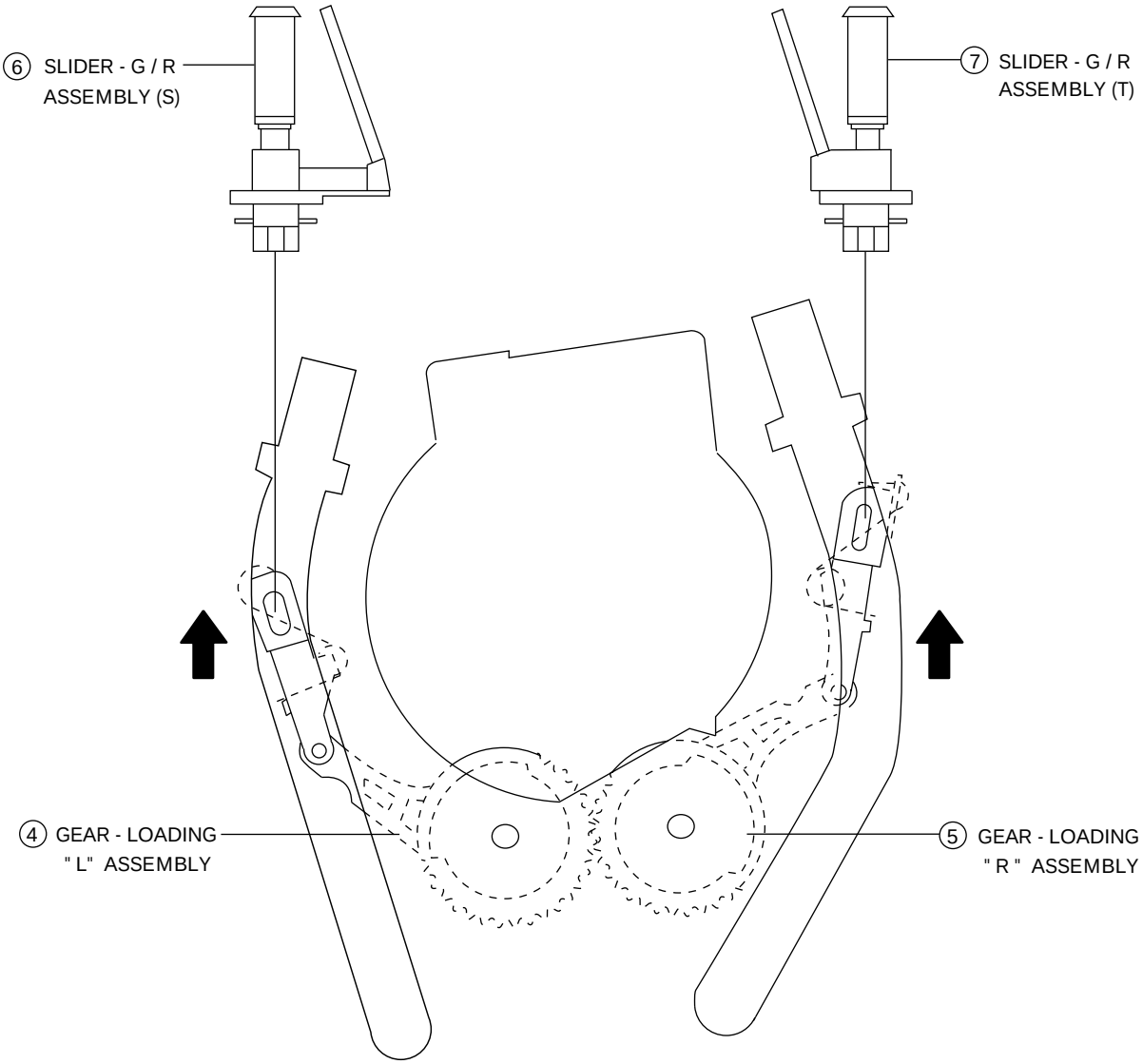


Fig. 1-61 Assembly of Slide Guide Roller “S”, “T” Ass’y

1-5 Cleaning and Lubrication

1-5-1 Cleaning Tape Mechanism

Periodic cleaning of the tape mechanism is necessary. To clean the following parts, use patch and solvent :

1. Capstan Shaft
2. All tape guide posts
3, Clutch Pulley
4. Pinch roller
5. Belt Capstan
6. Capstan Motor Pulley

1-5-2 Cleaning of Rotating and Stationary Heads

To clean video heads, full erase head, and the audio/control (A/C) head we recommend using a head cleaning kit and solvent.

Note : When cleaning video heads, move the cleaning stick in the direction of head rotation (wiping in a vertical direction may damage the heads.)

Press a chamois cloth which has been dipped in cleaning fluid lightly against the rotating Cylinder Ass'y. Clean slowly by rotating the Upper Cylinder Ass'y by hand.

Note : Never turn the Motor on when cleaning.

1-5-3 Lubrication of Tape Mechanism

The tape transport mechanism is properly lubricated at the factory. In normal use cycles, and with average environmental conditions, additional lubrication should not be required during the first year of operation.

Depending on the frequency of use and environmental conditions, periodic lubrication may be required. When lubricating, first remove the old lubricant, then sparingly apply new lubricant. Excessive lubricant is transferred to other assemblies, malfunction will result.

Use grease on the following parts every 1,000 hours. (See exploded view for location) :

1. Between base pole assembly (L, R) and main base
2. Gear Loading L, R
3. Slide Main
4. Lever Shift
5. Gear Master
6. Lever Slide Pinch
7. Pinch Roller
8. Slide Pinch
9. Base Cylinder

Oil may be required for the following parts after 1,000 hours. (See exploded view for location) :

Main Base
1. Arm Tension molding
2. Shaft Reel Disk L, R
3. Shaft Gear Relay S, T
4. Shaft Idler
5. Shaft Clutch

Other parts which are not listed above do not require lubrication, except when parts are replaced.
Use appropriate oil or grease as indicated on the exploded view.

THE ASSEMBLY PROCEDURES OF DECK PARTS

NO	DESCRIPTION	SUBPARTS	LOCATE	REMARK
1	BASE MAIN ASS'Y	GREASE	TOP VIEW	
2	MOTOR D.D CAPSTAN	3 SCREWS	TOP VIEW	
3	LEVER JOG ASS'Y	1 SCREW	TOP VIEW	DX8-A/DX8-AC
4	GEAR RELAY "S" ASS'Y	1 WASHER SLIT	TOP VIEW	
5	GEAR RELAY "T" ASS'Y	1 WASHER SLIT	TOP VIEW	
6	IDLER ASS'Y	1 WASHER SLIT	TOP VIEW	
7	REEL DISK "L" ASS'Y	1 WASHER PLAIN	TOP VIEW	
8	REEL DISK "R" ASS'Y	1 WASHER PLAIN	TOP VIEW	
9	ARM TENSION FULL ASS'Y		TOP VIEW	
10	SLIDE G/R ASS'Y (S)		TOP VIEW	
11	SLIDE G/R ASS'Y (T)		TOP VIEW	
12	SLIDE PUSH		TOP VIEW	
13	SLIDER PINCH	GREASE	TOP VIEW	
14	GEAR LOADING "L" ASS'Y		BOTTOM VIEW	
15	GEAR LOADING "R" ASS'Y		BOTTOM VIEW	
16	LEVER IDLER CHANGE		BOTTOM VIEW	
17	LEVER SHIFT ASS'Y	SPRING GUIDE	BOTTOM VIEW	
18	SLIDER MAIN	1 WASHER SLIT	BOTTOM VIEW	
19	LEVER SLIDER PINCH	1 WASHER SLIT	BOTTOM VIEW	
20	CLUTCH ASS'Y	1 WASHER SLIT, PLAIN	BOTTOM VIEW	
21	BRAKE CAPSTAN ASS'Y		BOTTOM VIEW	
22	SPRING BRAKE CAPSTAN		BOTTOM VIEW	
23	UNIT LOADING	2 SCREWS	BOTTOM VIEW	
24	GEAR MASTER	1 WASHER SLIT	BOTTOM VIEW	
25	BELT CAPSTAN		BOTTOM VIEW	
26	LEVER REVIEW		TOP VIEW	
27	ARM REVIEW ASS'Y		TOP VIEW	
28	LEVER PINCH CAM		TOP VIEW	
29	LEVER PINCH COMP ASS'Y		TOP VIEW	
30	SPRING ARM PINCH		TOP VIEW	
31	UNIT PINCH ROLLER	1 WASHER SLIT	TOP VIEW	
32	BRAKE MAIN "L" ASS'Y		TOP VIEW	
33	BRAKE MAIN "R" ASS'Y		TOP VIEW	
34	SPRING BRAKE MAIN		TOP VIEW	
35	BRAKE SUB "L" ASS'Y		TOP VIEW	
36	BRAKE SUB "R" ASS'Y		TOP VIEW	
37	SPRING BRAKE SUB "L"		TOP VIEW	
38	SPRING BRAKE SUB "R"		TOP VIEW	

NO	DESCRIPTION	SUBPARTS	LOCATE	REMARK
39	PRISM LED		TOP VIEW	
40	SLIDER RACK HOUSING		TOP VIEW	
41	LEVER REC S/W		TOP VIEW	
42	SPRING REC S/W		TOP VIEW	
43	SPRING TENSION		TOP VIEW	
44	SPRING SLIDE PUSH		TOP VIEW	
45	MAGNET ACE HEAD ASS'Y	1 SCREW	TOP VIEW	
46	HOUSING ASS'Y	3 SCREWS	TOP VIEW	
47	CYLINDER ASS'Y	3 SCREWS	TOP VIEW	
48	MAGNET F/E HEAD	1 SCREW	TOP VIEW	
49	STOPPER TAPE		TOP VIEW	DX7-A/DX8-A
	HEAD CLEANER ASS'Y		TOP VIEW	DX7-AC/DX8-AC

Note: Stopper tape has deleted from JAN.1998

MEMO

2. Alignment and Adjustment

2-1 Tape Transport System and Adjustment Locations

The tape transport system has been adjusted precisely in the factory. Alignment is not necessary except for the following :
1. Noise observed on the screen.
2. Tape damage.
3. Parts replacement in the tape transport system.

Lower flange height of tape guide is used as the reference for the transport adjustment.
To maintain the height of the tape guide and prevent damage, do not apply excessive force onto the main base.

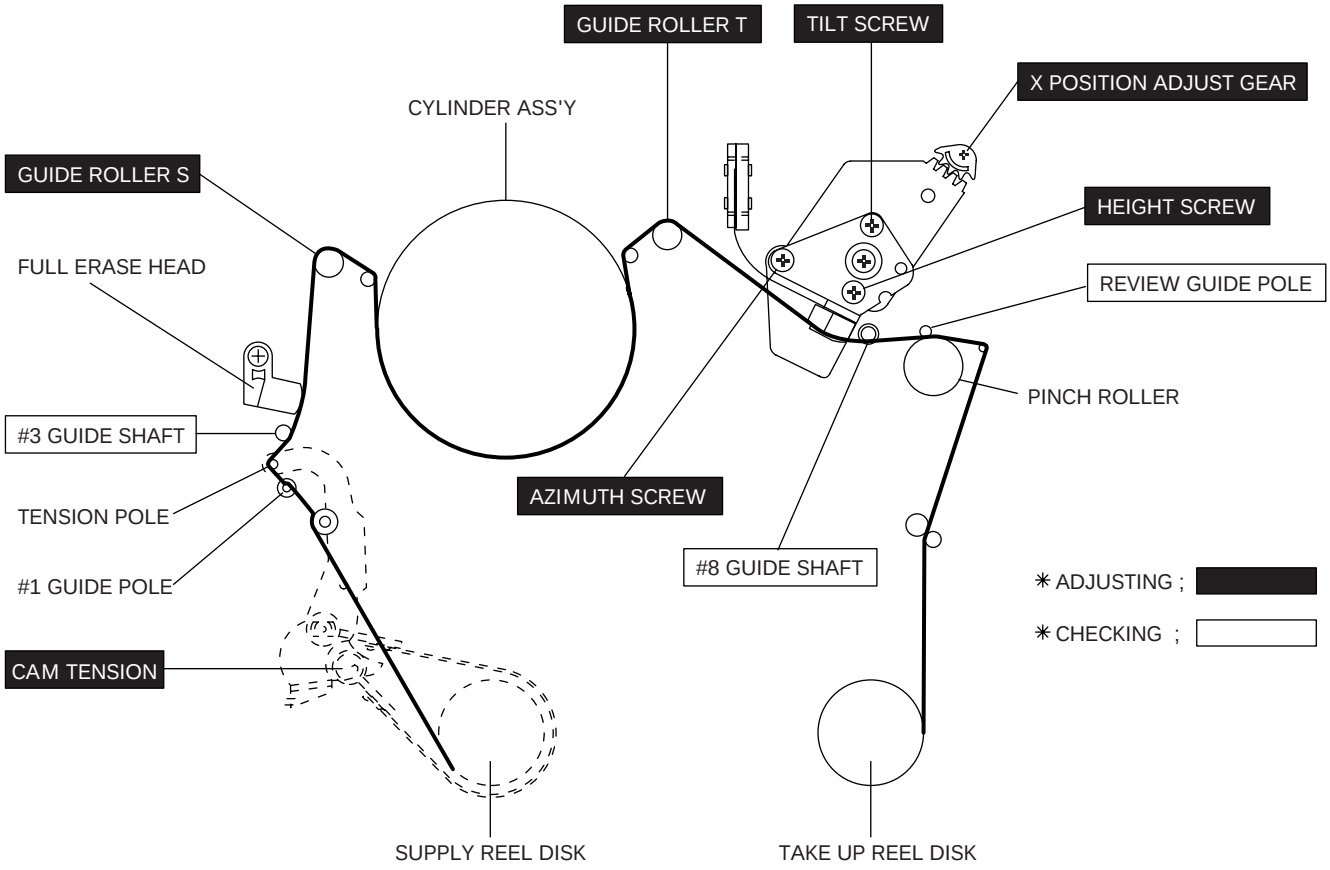


Fig. 2-1 Location of Tape Transport Adjustment

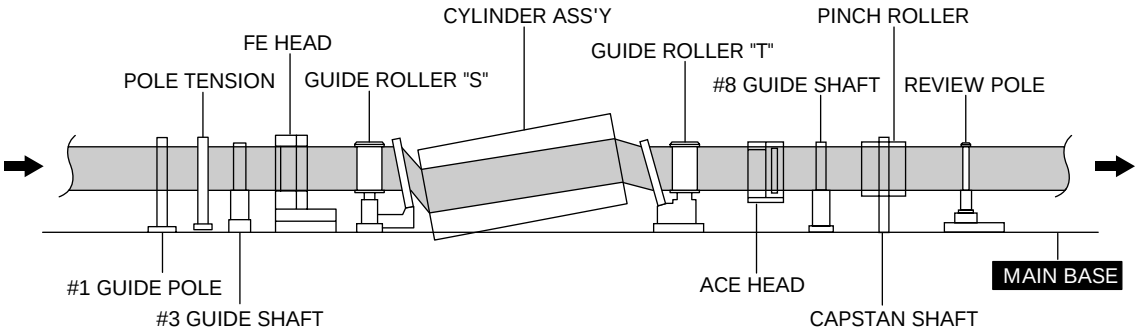


Fig. 2-2 Tape Travel Diagram

2-2 Tape Transport System Adjustment

When parts are replaced, perform the required adjustments by referring to precedures for the tape transport system. If there are any changes to the tape path, first run a T-120 (E-180) tape and make sure excessive tape wrinkle does not occur at the tape guides.

1. If tape wrinkle is observed at the S, T-guide rollers, turn the S, T-guide rollers until wrinkle disappears.
2. If the tape wrinkle is still observed at the tape guide, perform the tilt adjustment of the A/C head.
   (See page 5-1 of the Service Manual for Test Point Locations.)

2-2-1 A/C Head Assembly Adjustment

2-2-1 (a) A/C HEAD HEIGHT ADJUSTMENT

1) Run the alignment tape (Color bar) in the playback mode.
2) Observe surface of the audio head using a dental mirror.
3) Turn screw (A), (B), (C) clockwise or counterclockwise until the gap of lower tape edge and the lower edge of the control head is about 0.25mm. (Refer to Fig. 2-3 and 2-4)

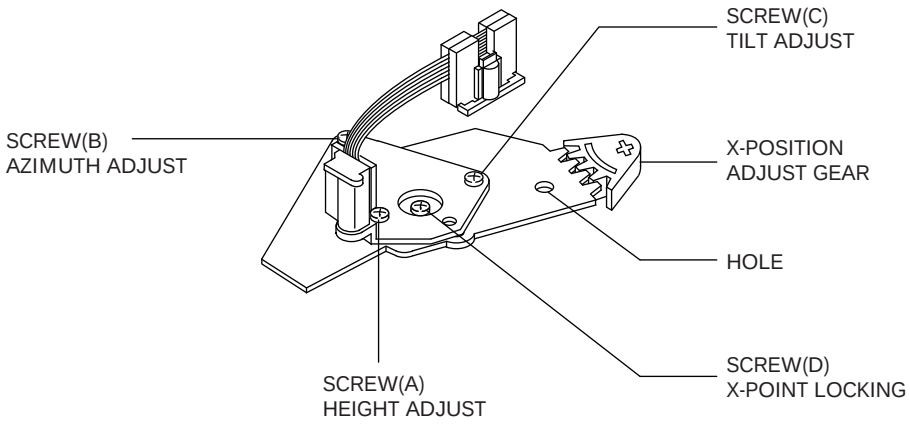


Fig. 2-3 Location of A/C Head Adjustment Screw

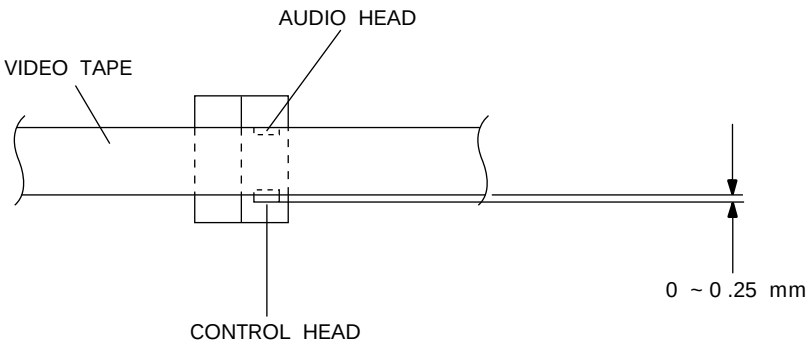


Fig. 2-4 A/C Head Height Adjustment

2-2-1 (b) A/C HEAD TILT ADJUSTMENT

1. Playback a T160 (E-240) tape and observe the position of the tape at the lower flange of tape guide.
2. Confirm that there is no curl or wrinkle at the lower flange of tape guide as shown in Fig.2- 5 (B)
3. If a curl or wrinkle of the tape occurrs, slightly turn the screw (C) tilt adjust on the A/C Head ass'y.
4. Reconfirm the A/C head height.

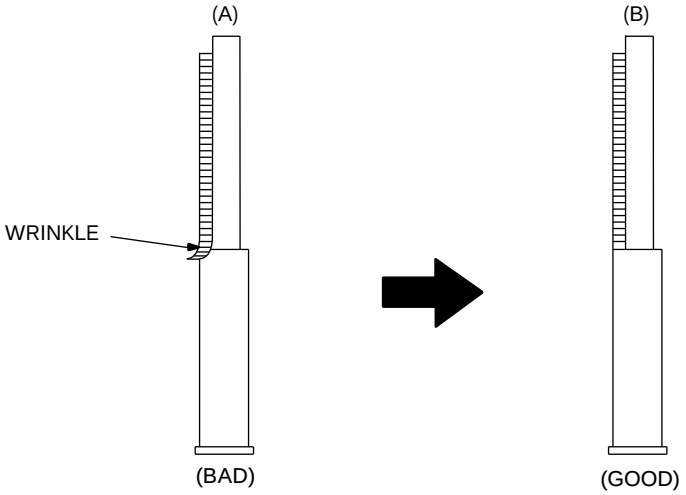


Fig. 2-5 Tape Guide Check

2-2-1 (c) AUDIO AZIMUTH ADJUSTMENT

1. Load alignment tape (Mono scope) and playback the NTSC : 7KHz (PAL : 6KHz) signal.
2. Connect channel-1 scope probe to audio output test point.
3. Adjust screw (B) to achieve maximum audio level. (See Fig. 2-3)

2-2-1 (d) A/C HEAD POSITION (X-POINT) ADJUSTMENT

1. See page 5-2 of the Service Manual for A/C Head position (X-Point) adjustment.

2-2-2 Linearity adjustment (S, T-guide rollers adjustment)

1. Playback the Mono Scope alignment tape (SP mode).
2. Observe the video envelope signal on an oscilloscope (triggered by the video switching pulse).
3. Make sure the video envelope waveform (at its minimum) meets the specification shown in Fig. 2-6.
   If it does not, adjust as follows :

Note : a=Maximum output of the video RF envelope.
b=Minimum output of the video RF envelope at the entrance side.
c=Minimum output of the video RF envelope at the center point.
d=Maximum output of the video RF envelope at the exit side.

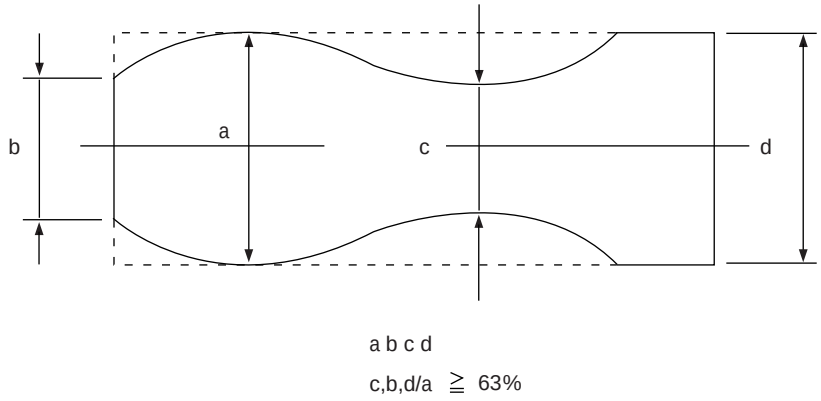


Fig. 2-6 Envelope Waveform Adjustment

4. If the section A in Fig. 2-7 does not meet the specification, adjust the S-guide roller up or down.
5. If the section B in Fig. 2-7 does not meet the specification, adjust T-guide roller up or down.

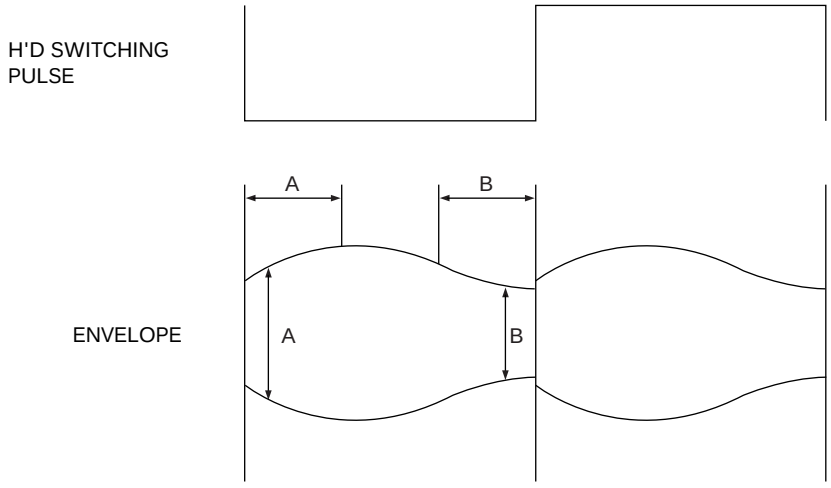


Fig. 2-7 Adjustment Points

6. Play back the Mono Scope alignment tape (SP mode).
7. Connect an oscilloscope CH-1 to the Envelope and CH-2 to the H'D SW Pulse for triggering.
8. Turn the guide roller heads with a flat head (▬) driver to obtain a flat video RF envelope as shown in Fig. 2-8.
9. After the adjustment is completed, tighten the set screws.

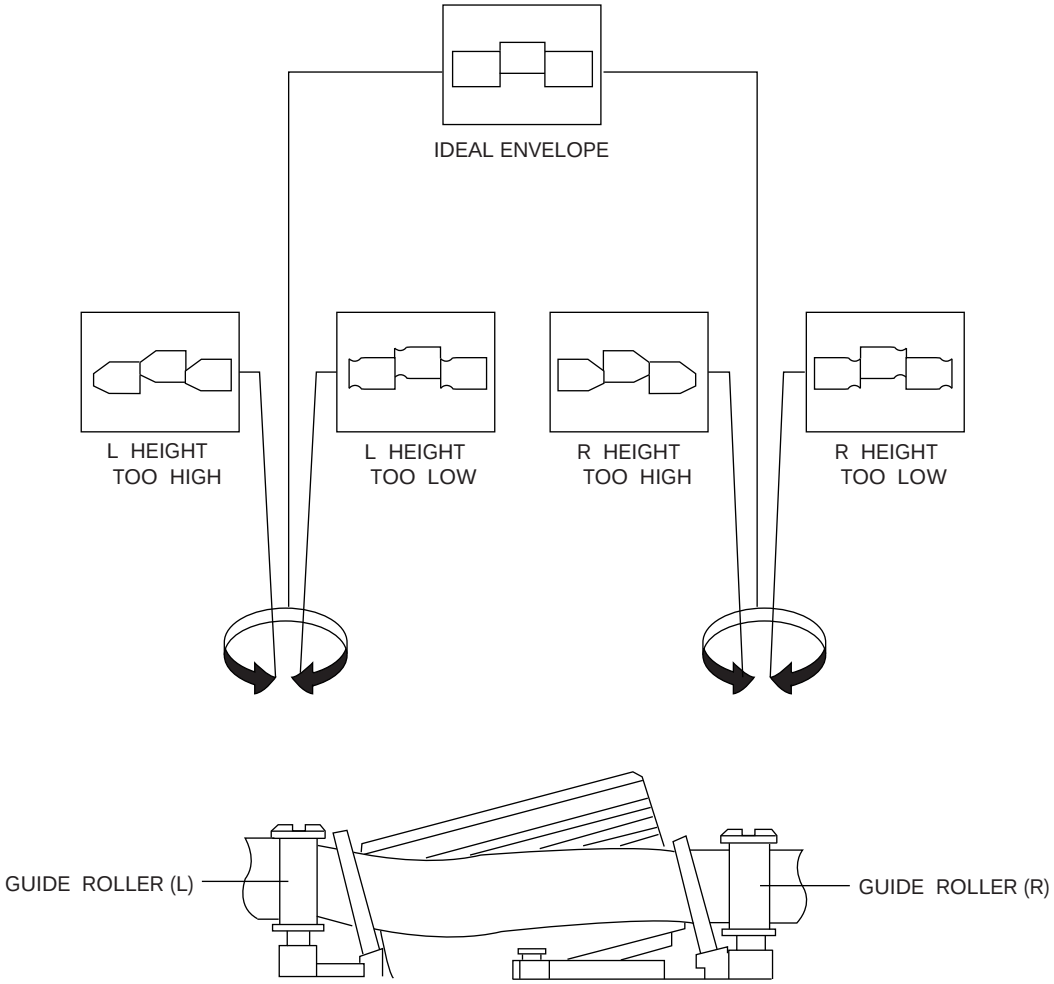


Fig. 2-8 S, T-Guide Roller Height Adjustment

2-2-3 Check Transitional Operation from RPS to Play

Check transition from RPS mode to play mode : Using a pre-recorded SP tape, make sure the entry side of envelope comes to an appropriate steady state within 3 seconds (as shown in Fig. 2-9). If the envelope waveform does not reach specified peak-to peak amplitude within 3 seconds, adjust as follows :

1. Make sure there is no gap between the supply roller lower flange and the tape.
   If there is a gap, adjust the supply guide roller again.
2. Change operation mode from the RPS to the play mode (again) and make sure the entry side of envelope rises within 3 second.

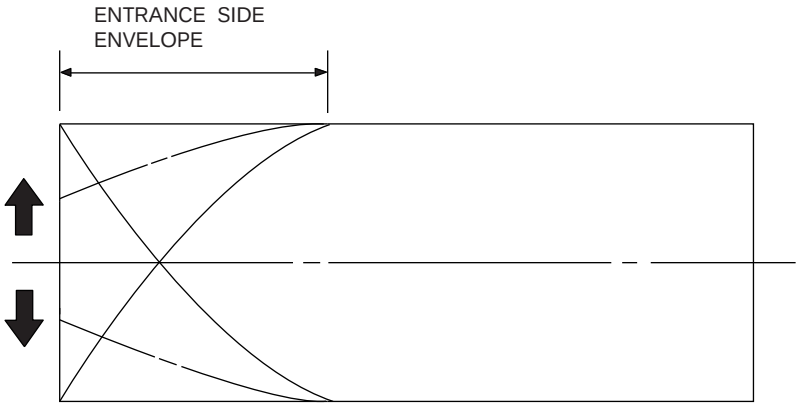


Fig. 2-9 Video Envelope Rising when Operation mode Changes from RPS to Play Mode

2-2-4 Envelope Check

1. Make recordings on T-120 (E-120) and T-160 (E-180) tape. Make sure the playback output envelope meets the specification as shown in Fig. 2-10.
2. Play back a self recorded tape (recording made on the unit using with T-120, E-120). The video envelope should meet the specification as shown in Fig. 2-10. In SP mode, (A) should equal (B).
   If the head gap is wide, upper cylinder should be checked.

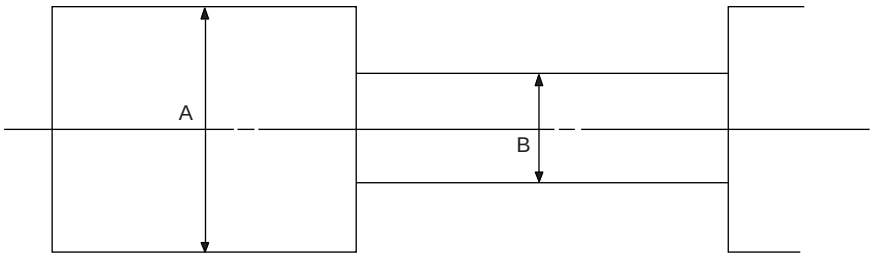


Fig. 2-10 Envelope Output and Output Level

2-2-5 Tape Wrinkle Check

1. Run the T-160 (E-240) tape in the playback, FPS, RPS and Pause modes and observe tape wrinkle at each guide.
2. If excessive tape wrinkle is observed, perform the following adjustments in Playback mode :

- Tape wrinkle at the S, T-guide roller section : Linearity adjustment.
- Tape wrinkle at tape guide flange : A/C head assembly coarse adjustment.

2-3 Reel Torque

2-3-1 Reel Torque

1. The rotation of the capstan motor drives the clutch ass'y through the capstan motor belt.
2. Brake operation and shift operation in FF/REW are done by a leverslide.
3. Transportation of accurate driving force is done by gears (clutch ass'y).

Note : If the spec does not meet the followings specifications, replace the clutch ass'y and then recheck.

MODE	TORQUE g/cm	GAUGE
PB/REC	100 ± 30	Cassette Torquemeter
RPS	170 ± 30	Cassette Torquemeter
FF/REW	Minimum 600	Torque Gauge

2-3-2 Location of Tension Pole and Back Tension Adjustments

1. Remove the housing ass'y and set the deck to "PLAY" mode.
2. Adjust the tension cam to 0 ~ -0.5mm from the center of supply roller.
3. The back tension meter should read 41 ~ 51g.cm. (PAL : 40 ~ 47g.cm)

Counterclockwise : Torque UP
Clockwise : Torque DOWN

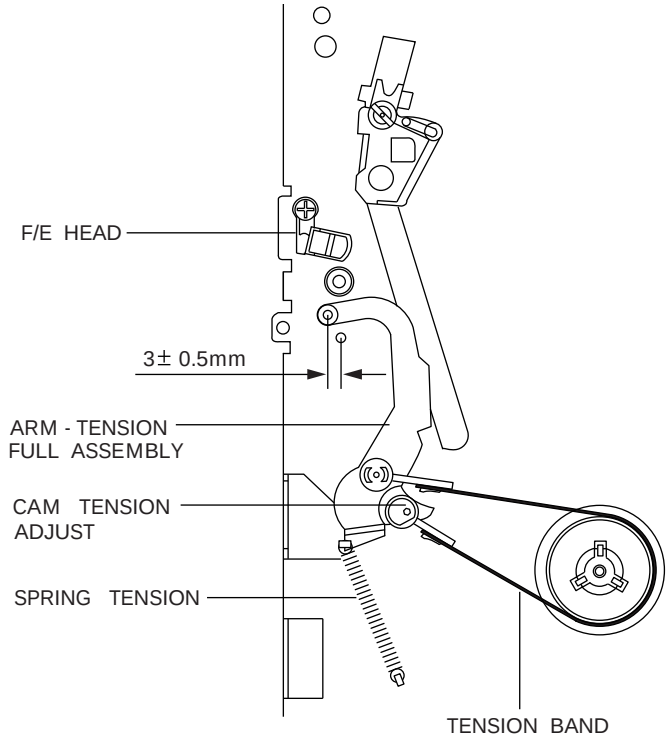


Fig. 2-11 Tension Pole and Back Tension Adjustment

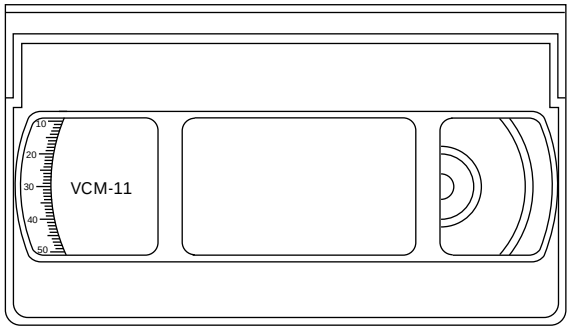


Fig. 2-12 Back Tension Tape Torque Cassette